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Title:
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Maximum Match 100%
Listing first 45 summaries
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Maximum DB seq length: 200000000
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  GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
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mating ph
LDL-recept
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conotoxin-
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ALIGNMENTS

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	Science 230, 1338-1343, 1985 A;Title: Peptide neurotoxins from fish-hunting cone snails. A;Reference number: A43620; MUID:86070213; PMID:4071055 A;Recession: A60133 A;Molecule type: protein A;Residues: 46-73 <oli> A;Recidues: 46-73 <oli> A;Recidues: 46-71 <ol2> R;Colivera, B.M.; McIntosh, J.M.; Cruz, L.J.; Luque, F.A.; Gray, W.R. PV Biochemistry 23, 5087-5090, 1984 A;Title: Purification and sequence of a presynaptic peptide toxin from Conus geograph A;Reference number: A01785; MUID:85072796; PMID:6509012 n MV A;Recession: A01785; MUID:85072796; PMID:6509012 A;Residues: 46-72 <ol3> R;Nishiuchi, Y.; Kumagaye, K.; Noda, Y.; Watanabe, T.X.; Sakakibara, S. Biopolymers 25, S61-568, 1986 Biopolymers 25, S61-568, 1986 A;Title: Synthesis and secondary-structure determination of omega-conotoxin GVIA: a 2 A;Contents; annotation</ol3></ol2></oli></oli>	
rmed by chemical synthesis .; Nadasdi, L.; Ramachandran, J.; Basus, k, April 1993 -NMR, residues 46-72 .; Nadasdi, L.; Ramachandran, J.; Basus, in GVIA using 2-D NMR spectroscopy and revining Syla using 2-D NMR spectroscopy and revining NMR. NMR; Norton, R.S. k, August 1993	ng cone snails. MID:4071055 Luque, F.A.; Gray, W.R. Luque, F.A.; Gray, W.R. ynaptic peptide toxin from Conus geograph MID:6509012 anabe, T.X.; Sakakibara, S. etermination of omega-conotoxin GVIA: a 21 MID:3779030	cone shell (Conus geographus) toxin GVIC r-1995 #text_change 15-Sep-2000 , J.S.; Hillyard, D.R. xin GVIA determined from a cDNA clone. MID:1440648 PIDN:AAA81590.1; PID:g1070393 e (NCBIN:119531, NCBIP:119532)

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F;23-45/Domain: propeptide #status predicted <PRO>
F;46-73/Product: omega-conotoxin GVIB #status experimental <MAT1>
F;46-72/Product: omega-conotoxin GVIA #status experimental <MAT2>
F;46-71/Product: omega-conotoxin GVIC #status experimental <MAT3>
F;46-61,53-64,60-71/Disulfide bonds: #status experimental <MAT3>
F;49-55,66/Modified site: 4-hydroxyproline (Pro) #status experimental
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A;Reference number: A51089; PDB:1CCO
A;Contents: annotation; conformation by (1)H-NMR, residues 46-72
C;Comment: There are several types of conotoxins: alpha, acting on postsynaptic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C; Superfamily: omega-conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  probable omega-conotoxin PullA precursor - cone shell (Conus pulicarius)
C;Species: Conus pulicarius
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 05-Nov-1:
C;Accession: B59135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            F;72/Modified site: amidated carboxyl end (Tyr) (amide
C;Species: Conus textile (cloth-of-gold C;Date: 19-Mar-1997 #sequence_revision 1 C;Accession: S12513; A30103; S19553 R;Woodward, S.R.; Cruz, L.J.; Olivera, BEMBO J. 9, 1015-1020, 1990
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A; Residues: 1-74 < ZHA>
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A; Accession: B59135
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                                                                             N; Alternate names:
C; Species: Conus te
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                                                                                                                        delta-conotoxin TxVIA precursor -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;Reywords: calcium channel inhibitor; presynaptic neurotoxin;
;1-22/Domain: signal sequence #status predicted <SIG>
;23-45/Domain: propeptide #status predicted <PRO>
;46-74/Product: omega-conotoxin PullA #status predicted <MAT>
;48-62,55-66,61-73/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;Superfamily: omega-conotoxin;Keywords: calcium channel in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genetics
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Species: Conus pulicarius
Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 05-Nov-1999
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                                                                                                                                                                                                                           CCSLYC 66
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                                                                                                   VIA precursor - cone shell (Conus textile) conotoxin IA; King-Kong peptide (KK-0)
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Pred. No. 5.2e-20;
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4; Mis
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                         B.M.; Hillyard,
                                                                 11-Apr-1997 #text_change
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A;Title: Constant and hypervariable regions in conotoxin propeptides A;Reference number: S12513; MUID:90214607; PMID:1691090 A;Accession: S12513
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Eur. J. Biochem. 202, 589-595, 1991
A; Title: Mollusc specific toxins from the venom of Conus
A; Reference number: S19553; MUID:92104183; PMID:1761058
A; Recession: S19553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Reference number: A30103; MUID:89207553; PMID:2706261
A;Accession: A30103
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A; Molecule type: protein A; Residues: 52-78 < HIL>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Cross-references:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Residues:
                                                                                                                                                                                                                               F;1-22/Domain: signal sequence #status predicted <SIG>
F;23-51/Domain: propertide #status predicted <PRO>
F;52-77/product: conotoxin Tx-KK1 #status predicted <MAT>
F;52-67,59-71,66-76/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                   R; Woodward, S.R.; Cruz, L.J.; Olivera, B.M.; EMBO J. 9, 1015-1020, 1990
A; Title: Constant and hypervariable regions A; Reference number: $12513; MUID:90214607; 1 A; Accession: $12514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       conotoxin Tx-KK1 precursor - cone shell N;Alternate names: King-Kong peptide C;Species: Conus textile (cloth-of-gold C;Date: 19-Mar-1997 #sequence_revision 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Molecule type: protei
A;Residues: 52-78 <FAI>
                                                                                                                                                                                                                                                                                                                     C; Superfamily: omega-conotoxin
C; Keywords: neurotoxin; venom
                                                                                                                                                                                                                                                                                                                                                              A;Cross-references: EMBL:X53284; NID:g10889; PIDN:CAA37378.1; PID:g10890
                                                                                                                                                                                                                                                                                                                                                                                        A; Molecule type: mRNA
A; Residues: 1-77 <WOO>
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Best Local Similarity
                                                                                                                                                         Query Match
Best Local
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55 RIAYNCCTGSC 65
                                                                                      1 MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTRCKGTGKPCS 54
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MKLTCVVIVAVLLLTACQLITADDSRG-----
                                           MKLTCMMIVAVLFLTAWTFATADDSSNGLENLFSKAHHEMKNPEASKLNKRCIEQFDPCE 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1-78 <WOO>
                                                                                                                                        28;
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                                                                                                                                                              35.7%;
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                                                                                                                                           10;
                                                                                                                                      Score 135; UB ...
Prod. No. 3.8e-07;
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Pred. No. 3.4e-07;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -TQKHRALRSDTKLSMSTR-CKGTGKPC 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PMID:1691090
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MIRHTCCVGVC

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A; Molecule type: mRNA; protein
A; Residues: 1-81 <580>
C; Superfamily: omega conotoxin
C; Superfamily: omega conotoxin
C; Superfamily: omega conotoxin
C; Stypords: amidated carboxyl end; hydroxyproline; neurotoxin; sodi
F; 1-22/Domain: signal sequence #status predicted <SIG>
F; 23-51/Domain: propeptide #status predicted <PRO>
F; 23-51/Domain: propeptide #status predicted <PRO>
F; 52-80/Product: delta-conotoxin PVIA #status experimental <MAT>
F; 54-69, 61-73, 68-78/Disulfide bonds: #status predicted
F; 57, 65/Modified site: 4-hydroxyproline (Pro) #status experimental
F; 80/Modified site: amidated carboxyl end (Gly) (amide in mature for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                delta-conotoxin PVIA precursor - cone shell (Conus purpurascens)
N;Alternate names: lockjaw peptide
C;Species: Conus purpurascens (purple cone)
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change 10-Sep-1999
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Blochemistry 34, 4913-4918, 1995
R;Title: Purification, characterization, synthesis, and
A;Reference number: A58651; MUID:95226378; PMID:7711013
A;Accession: A58651
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A; Title: Constant and hypervariable regions A; Reference number: S12513; MUID:90214607; FA; A; Accession: S12515
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C;Date: 19-Mar-1997 #sequence_revision 11-Apr-1997 #text_change 16-Jul-1999
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A;Residues: 1-77 <WOO>
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Best Local
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Best Local
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/Product: conotoxin Tx-KK2 #status predicted <MAT>
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                                                                                                                                                                              1 MKLTCVVIVAVLLLTACQLITADDSR-GTQKH-----RALRSDTKLSMSTRCKGTGKP 52
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                                                 CGIKPGLCCSEFCLPGVC
                                                                                         CSRIAYNCCTGSCRSGKC 70
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                                                                                                                                        MKLTCVMIVAVLFLTAWTFVTADDSKNGLENHFWKARDEMKNREASKLDKKEACYAPGTF
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                                                                                                                                                                                                                               32;
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                                                                                                                                                                                                                                                  33.3%;
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Pred. No. 3.4e-06;
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Pred. No. 2e-06;
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A;Cross-references: R;Nemoto, N.; Kubo,
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C;Species: Conus magus (magus cone)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993
C;Accession: JH0700; C60133; A34115
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C;Date: 17-Apr-1993 #sequence_revision 11-Apr-1997 #text_change
C;Accession: JH0699; PC2380
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A; Molecule type: mRNA
A; Residues: 1-29 <HIL>
                                                      A; Reference number: A; Accession: JH0699
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            R; Nielsen, K.J.; Thomas, L.; Lew
J. Mol. Biol. 263, 297-310, 1996
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: protein A; Residues: 1-25 <OLI>
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A; Accession: C60133
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A; Residues: 1-25 <HIL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     omega-conotoxin MVIIA [validated] - cone shell (Conus magus)
                                                                             A;Title: A new conus peptide ligand for mammalian presynaptic A;Reference number: JH0699; MUID:92337922; PMID:1352986
                                                                                                                                                                                                                                                                       omega-conotoxin MVIIC precursor [validated] -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Title: A consensus structure for omega-conotoxins with different selectivities A; Reference number: A58619; MUID:97070382; PMID:8913308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Contents:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A; Reference number: A67648; PDB:1MVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Science 230,
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                                                                                                                                      Neuron
                                                                                                                                                             R;Hillyard, D.R.;
                                                                                                                                                                                                                                                                                                       JH0699
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ords: acetylcholine release inhibition; amidated 8-20,15-25/Disulfide bonds: #status predicted
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                                                                                                                                      69-77,
                                                                                                                                                                                                                                                                                                                                                                                                                   CKGKGAKCSRLMYDCCTGSCRSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   annotation; conformation by (1)H-NMR, residues 1-25 K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
                                                                                                                                      ; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, L.; Ramachandran, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Monje, V.D.; Mintz, I.M.;
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76.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 121;
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                                                                                                                                                                                                                                                                             cone shell (Conus
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                                                                                                            Ca2+ channels
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                                                                                                                                                                                                                                                                             magus) (fragment)
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for

GB:S40826; NID:g252126; S.; Yoshida, T.; Chino,

PIDN:AAB22674.1; N.; Kimura, T.; S

; PID:g252127 Sakakibara, S.;

Kyogoku,

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Blochem. Blophys. Res. Commun. 207, 695-700, 1995
A; Title: Solution structure of omega-conotoxin MVIIC determined
A; Reference number: PC2380; MUID:95169113; PMID:7864862
A; Accession: PC2380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A; Molecule type: protein
A; Residues: 3-28 <NEM>
R; Rarr-Jones, S.; Basus, V.J.
R; Farr-to-the Brookhaven Protein I
submitted to the Brookhaven Protein I
A; Reference number: A66297; PDB:IOMN
A; Reference number: A66297;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          R; Monje, V.D.; Haack, J.A.; Naisbitt, S.R.; Miljanich, G.; Neuropharmacology 32, 1141-1149, 1993
A; Title: A new Conus peptide ligand for Ca channel subtypes A; Reference number: A58537; MUID:94150815; PMID:8107968
A; Accession: A58537
A; Molecular Accession: A58537
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          omega-conotoxin MVIID precursor - cone shell (Conus magus) (fragment)
C;Species: Conus magus (magus cone)
C;Date: 27-Mar-1997 #sequence_revision 11-Apr-1997 #text_change 16-Jul-1999
C;Accession: A58537
R;Monje, V.D.; Haack, J.A.; Naisbitt, S.R.; Miljanich, G.; Ramachandran, J.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Molecule type: mRNA
A; Residues: 1-29 <MOND
A; Residues: 1-29 <MOND
A; Cross references: GB:S69322; NID:g545399; PIDN:AAB29902.1;
C; Seywords: toxin; venom
C; Keywords: toxin; venom
C; Keywords: toxin; venom
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                                                                                                 C;Species: Conus magus (magus cone)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 23-May-1997
C;Accession: JH0701; B34115
R;Hillyard, D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, L.; Ramachandran, Reuron 9, 69-77, 1992
                                                                                                                                                                                                                                                                                                                           20
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                                                                                                                                                                                                omega-conotoxin MVIIB - cone shell (Conus magus)
                                             A;Title: A new conus peptide ligand for mammalian presynaptic Ca2+A;Reference number: JH0699; MUID:92337922; PMID:1352986
A;Accession: JH0701
                                                                                                                                                                                                                      JH0701
A; Molecule type:
A: Residues: 1-25
                           A; Status: nucleic acid sequence
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Best Local &
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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                        /Product: omega-conotoxin MVIID #status predicted <MAT>,11-23,18-28/Disulfide bonds: #status predicted
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                                                                                                                                                                                                                                                                                                             STRCKGTGKPCSRIAYNCCTGSCRSGKCG 71
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19; Conser
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Pred. No. 2.9e
4; Mismatches
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Pred. No. 2.
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6;
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.9e-05;
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alternative
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R:Olivera, B.M.; Cruz, L.J.; de Santos, V.; LeCheminant, G.W.; Biochemistry 26, 2086-2090, 1987
A;Title: Neuronal calcium channel antagonists. Discrimination A;Reference number: A34115; MUID:87299637; PMID:2441741
A;Accession: B34115
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         C; Keywords: acetylcholine release inhibition; amidated carboxyl end; F;1-16,8-20,15-25/Disulfide bonds: *status predicted F;25/Modified site: amidated carboxyl end (Cys) *status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A; Molecule type: protein
A; Residues: 1-25 <OLI>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C;Keywords: neurotoxin; sodium channel inhibitor; venom F;1-22/Domain: signal sequence #status predicted <SIG>F;3-50/Domain: propeptide #status predicted <PRO>F;31-80/Product: delta-conotoxin PuIA #status predicted <MAT>F;52-70,59-74,69-78/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        C;Species: Conus puricarius
C;Date: 05-Nov-1999 #sequence_revision 05-Nov-1999 #text_change 05-Nov-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         probable delta-conotoxin PulA precursor
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C;Superfamily: omega-conotoxin
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A; Residues: 1-80 <ZHA>
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A; Accession: A59135
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submitted to GenBank,
                                                                                       C; Species: Conus striatus (striated cone)
C; Date: 31-Dec-1993 #sequence_revision 31-Dec-1993
C; Accession: C44379
C; Accession: C4479
C; Accession: C4479
B; Ramilo, C.A.; Zafaralla, G.C.; Nadasdi, L.; Hamme
Biochemistry 31, 9919-9926, 1992
Biochemistry 31, 9919-9926, 1992
A; Title: Novel alpha- and omega-conotoxins from Con
A; Title: Novel alpha- and omega-conotoxins from Con
A; Reference number: A44379; MUID: 93003172; PMID: 139
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C44379
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Best Local S
Matches 16
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          A; Cross-references: CAS:143306-19-8
                                A; Molecule type: protein
A; Residues: 1-26 < RAM>
                                                                     A; Reference number: A44379; A; Accession: C44379
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTR-----CKGTGKPCS 54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CKGKGASCHRTSYDCCTGSCNRGKC
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16; Conserv
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source: venom
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March 1999
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pred. No. 0.00022;
pred-matches 7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cone shell (Conus pulicarius)
                                                                                                        from Conus striatus venom PMID:1390774
                                                                                                                                                                      Hammerland, L.G.; Yoshikami,
                                                                                                                                                                                                                                                                      (Conus striatus)
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                                                                                                                                                                                                           #text_change 15-Sep-2000
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omega-conotoxin GVIIA - cone shell (Conus geographus)
N;Alternate names: shaker peptide GVIIA
C;Species: Conus geographus (geography cone)
C;Date: 11-Dec-1992 #sequence_revision 11-Dec-1992 #t(C;Accession: A43620
R;Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.N Science 230, 1348-1343, 1985
A;Title: Peptide neurotoxins from fish-hunting cone sq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hypothetical protein R06A4.7 - Caenorhabditis elegans C.Species: Caenorhabditis elegans C.Species: Caenorhabditis elegans C.Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 29-Oct-1999 C.Accession: T21436; T23953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Molecule type: DNA
A; Residues: 1-775 <WI2>
A; Cross-references: EMBL: Z83120; PIDN: CAB05589.1; GSPDB: GN00020; CESP: R06A4.7
A; Experimental source: clone R06A4
C; Genetics:
A; Gene: CESP: R06A4.7
A; Map position: 2
A; Introns: 223/1; 414/3; 464/2; 537/1; 601/2; 655/1; 679/1; 749/2
                                                                                                                                                                                           RESULT
A43620
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A; Contents: annotation: conformation by (1)H-NMR
C; Comment: This omega-conotoxin blocks presynaptic calcium channels.
C; Superfamily: omega-conotoxin
C; Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium chan F; 1-16,8-20,15-26/Disulfide bonds: #status predicted
F; 26/Modified site: amidated carboxyl end (Cys) #status experimental
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A; Residues: 1-775 <WIL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A; Cross-references: EMBL: Z81515; PIDN: CABO4199.1; GSPDB: GN00020; CESP: R06A4.7
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Best Local
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36.2%;
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                                               Zeikus, R.; McIntosh, J.M.; Varga,
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Pred. No. 5.
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Search completed: May 20, Job time: 40.1979 secs

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A;Reference number: A43620; MUID:86070213; PMID:4071055
A;Accession: A43620
A;Accession: PMID:4071055
A;Accession: PMID:407105
A;Accession: PMID:407
                                                                                                                                                                                                                                                         G;Superfamily: omega-conotoxin
G;Superfamily: omega-conotoxin
G;Keywords: acetylcholine release inhibition; calcium channel inhibitor; hydroxyproli
G;Keywords: acetylcholine release inhibition; calcium channel inhibitor; hydroxyproli
G;I-16,8-19,15-26/Disulfide bonds: #status predicted
F;I-16,8-19,15-26/Disulfide bonds: #status experimental
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N;Alternate names: shaker peptide GVIIB
C;Species: Conus geographus (geography cone)
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Perfect score:
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Maximum DB seq length: 2000000000
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1: sp_archea:*
2: sp_bacteria
3: sp_fungi:*
4: sp_human:*
5: sp_inverteb:
6: sp_manmal:*
7: sp_mhc:*
8: sp_organel1:
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ALIGNMENTS

Db Db	Que Bee Mai	SQ SQ SQ	D D D D P P	1 R R R R R	88888 88888	Q9NCV1 ID C AC C DT C DT C	RESULT
1 VVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKAAGKPCSRIAYNCCTGSC 60 66 RSGKCG 71 61 RSGKCG 66	Query Match 89.7%; Score 339; DB 5; Length 66; Best Local Similarity 97.0%; Pred. No. 2.3e-36; Matches 64; Conservative 0; Mismatches 2; Indels 0; Gaps 0; 6 VVIVAVLLITACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNCCTGSC 65	Pfam; PF02950; Conotoxin; 1. NON_TER 1 1 SEQUENCE 66 AA; 6976 MW; 29A992736137DA05 CRC64;	eating Conus."; Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AF174245; AAF89909.1; HSSP; P05484; 1MVI. InterPro; IPR004214; Conotoxin.	SEQUENCE FROM N.A. STRAIN-CSTRH_1_6; Duda T.F., Palumbi S.R.; "Molecular evolution of four-loop conotoxin precursors from fish-	Four-toop conotoxin (Fragment). Conus striatus (Striated cone). Eukaryota; Metazoa; Wollusca; Gastropoda; Caenogastropoda; Neogastropoda; Conoidea; Conidae; Conus. NCBI_TaxID=6493;	VI Q9NCV1 PRELIMINARY; PRT; 66 AA. Q9NCV1; Q1-CCT-2000 (TrEMBLrel. 15, Created) Q1-CCT-2000 (TrEMBLrel. 15, Last sequence update) Q1-JUN-2002 (TrEMBLrel. 21, Last annotation update)	LT 1

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Ol-OCT-2000 (TIEMBLrel. 15, Last sequence update)
Ol-JUN-2002 (TIEMBLrel. 21, Last annotation update)
Four-loop conotoxin precursor (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastr Neogastropoda; Conoidea; Conidae; Conus.
NCBL_TaxID=6493;
                                              Matches
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Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
EMBL; AF174244; AAF89908.1; -.
EMBL; AF174240; AAF89904.1; -.
HSSP; P05484; IMVI.
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Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop
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Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
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                                                                                                                           eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AFT14242; AAF89906.1; -.
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxin.
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NCBI_TaxID=6493;
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                                                                                                                                                                                                 Duda T.F., Palumbi S.R.;
                                                                                                                                                                                                              STRAIN=CSTRH_1_3
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                                                                                                                  Pfam; PF02950; Conotoxin; 1.
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                                                                                                                                                                                    Molecular evolution of four-loop conotoxin precursors from
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63; Conserv
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95.5%;
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93.9%;
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Pred. No. 2.5e-35;
0; Mismatches 3
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Last sequence update)
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                                               Score 328; DB 5; L
Pred. No. 6.2e-35;
Pred. No. 6.2e-35;
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RESULT
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Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF174241; AAF89905.1; -
HSSP; P05484; 1MVI.
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Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin
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Pfam; PF02950; Conotoxin; 1.
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Q9NCV2;
Q1-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
EMBL; AF174243; AAF89907.1;
HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                                                                              STRAIN=CSTRH_1_4;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Four-loop conotoxin (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                              Four-loop conotoxin (Fragment)
Conus striatus (Striated cone)
Eukaryota, Metazoa, Mollusca;
Neogastropoda; Conoidea; Conid
                                                                                                                                                                                          Q9NCU1;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel: 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Duda T.F., Palumbi S.R.; "Molecular evolution of
                          Duda T.F., Palumbi S.R.;

"Molecular evolution of four-loop conotoxin preating Conus.";

Submitted (AUG-1999) to the EMBL/GenBank/DDBJ

EMBL; AF174267; AAF89931.1;

HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                Q9NCU1
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pfam; PF02950; Conotoxin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases EMBL; AF174246; AAF89910.1; -. HSSP; P05484; LMVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        eating Conus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-CSTRH_1_7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
                                                                                                   STRAIN=CSTRH_R_1;
                                                                                                              SEQUENCE FROM N.A.
                                                                                                                                    NCBI_TaxID=6493;
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                                                                                                                                                                                                                                                                                                                                RSGKCG 71
     PF02950; Conotoxin; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR004214; Conotoxin.
                IPR004214; Conotoxin
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                                                                                                                                                                                                                                                                                                                                                                                                                                                      6981 MW;
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92.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  four-loop conotoxin precursors from
                                                                                                                                                 Conidae;
                                                                                                                                                                                                                                                                                                                                                                                                     Score 323; DE Pred. No. 2.7e 2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                       2;
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                                                                                                                                                           Gastropoda;
                                                                                                                                                                                                                                               PRT;
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2.7e-34;
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                                                    databases
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Q9N628
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Best Local S
Matches 59
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Best Local S
Matches 58
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Q9NCW3;
Q1-CCT-2000 (TrEMBLrel. 15,
01-CCT-2000 (TrEMBLrel. 15,
01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NON_TER
SEQUENCE
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eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases EMBL; AF174225; AAF89893.1;
EMBL; AF174226; AAF89893.1;
EMBL; AF174226; AAF89890.1;
HSSP; P05484; IMVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          O9N628 PRELIMINARY;
Q9N628;
O1-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 21,
O1-JUN-2002 (TrEMBLrel. 21,
                                                            Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
SEQUENCE FROM N.A.
STRAIN-CCATH_11_7;
Duda T.F., Palumbi S.R.;
Molecular evolution of four-loop conotoxin
                                                                                                 Conus catus
                                                                                                           Four-loop conotoxin
                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE
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STRAIN-CCATH_1II_9,
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Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID-101291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conus catus
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                                                                                                                                                                                                                                 RSGRCG
RSGRCG
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                                                                                                                                                                                                                                                                                  VVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKSTGASCRRTSYDCCTGSC
                                                                                                                                                                                                                                                                                                                                                                                                   Pro; IPR004214; Conotoxin. PF02950; Conotoxin; 1.
                                                                                                                                                                                                                                                                                                                                           Similarity
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                                                                                                           (Fragment).
                                                                                                                                                                                                                                                                                                                                           81.7%;
87.9%;
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Last annotation updat
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Last annotation update)
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Pred. No. 1.8e-32;
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                                                                                                                                                                         PRT;
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'.2e-33;
les 5;
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   precursors from fish-
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Best Local S
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RESULT 11
Q9N625
ID Q9N62
AC Q9N62
DT 01-OC
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Best Local S
Matches 57
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EMBL, AF174220; AAF89884.1; -.
HSSP, P05484; LMVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Pfam; PF02950; Conotoxin; 1.
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01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation updat
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
STRAIN-CCATH_II_6, CCATH_II_1, AND CCATH_II_2;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors f eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF174219; AAF89883.1; -.
EMBL; AF174214; AAF89878.1; -.
EMBL; AF174215; AAF89879.1; -.
                                                             01-OCT-2000
01-OCT-2000
01-JUN-2002
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Q9N625;
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                     Four-loop conotoxin Conus catus
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      Eukaryota;
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57; Conserv
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nilarity 87.9%;
Conservative
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nilarity 86.4%;
Conservative
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      Metazoa; Mollusca;
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                                           (TrEMBLrei. 15, Created)
(TrEMBLrel. 15, Last sequence update)
(TREMBLrel. 21, Last annotation updat
onotoxin precursor (Fragment).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; Score 309; DB
; Pred. No. 1.8e
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                      ; Score 304; DB; Pred. No. 7.8e; 4; Mismatches
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      Gastropoda; Caenogastropoda;
                                                                                                                                                       PRT;
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1.8e-32;
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es 5;
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"Molecular evolution of fc
eating Conus.";
Submitted
                                                                                                                                                                                                                             Pfam; PF02950; Conotoxin; 1.

NON_TER
SEQUENCE 66
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EMBL; AF174228; AAF89892.1; EMBL; AF174221; AAF89885.1; EMBL; AF174222; AAF89886.1; EMBL; AF174224; AAF89888.1; EMBL; AF174225; AAF89889.1; HSSP; P05484; IMVI.
                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
STRAIN-CCAFH II.5;
Duda T.F., Palumbi S.R.;
"Molecular evolution of f
"Molecular evolution of f
eating Conus.";
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Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
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01-CCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                            Submitted (AUG-1999) to the EMBL; AF174218; AAF89882.1; HSSP; P05484; 1MVI.
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61
                                       66
                                                                             RSGRCG
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57; Conserv
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RSGRCG
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57; Conserv
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pred. No. 7.8e-32;
                                                                                                                                                                 Score 303; DB 5;
pred. No. 1e-31;
3; Mismatches 6
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Best Local S
Matches 56
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Best Local
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Pfam; PF02950;
NON_TER 1
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STRAIN-CCATH_R_4;
Buda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-2000 (TIEMBLIEL. 15, Created)
01-OCT-2000 (TIEMBLIEL. 15, Last sequence update).
01-JUN-2002 (TIEMBLIEL. 21, Last annotation update)
Four-loop conotoxin (Fragment).
Conus cating
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01-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 15,
01-JUN-2002 (TrEMBLrel. 21,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                            Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases EMBL; AF174238; AAF89902.1; -. HSSP; P05484; LMVI.
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Duda T.F., Palumb1 S.R.;
"Molecular evolution of four-loop conotoxin precursors eating Conus.";
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Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
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01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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01-OCT-2000
                                                                                                                                                                                                                                                                                                                                      SEQUENCE
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NCBI_TaxID=101291;
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Neogastropoda; Conoidea; Conidae; Conus.
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Pfam; PF02950; Conotoxin; 1.
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57; Conserv
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2950; Conotoxin; 1.
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nilarity 86.4%;
Conservative
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                                                                                                                                                                                                                                                                                                                                   66E4898A6968B31B CRC64;
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                                                                                                                                                                                                                                 Score 300; DB 5;
Pred. No. 2.6e-31;
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EMBL; AF174216; AAF89880.1;
HSSP; P05484; 1MVI.
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Duda T.F., Palumbi S.R.;
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01.NOV-1988 (Rel. 09, Created)
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0mega-conotoxin MVIIa precursor (SNX-111) (Z1
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calcium channel subtypes.";
J. Biol. Chem. 275:35335-35344(2000).
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MEDLINE-87299637; PubMed-2441741;
Olivera B.M., Cruz L.J., de Santo
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Rivier J.E., de Santos V., Cruz L.J.;
"Peptide neurotoxins from fish-hunting
Science 230:1338-1343(1985).
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Basus V.J., Nadasdi
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Kohno T., Kim J.-I., Kobayashi K., Kodera
Three-dimensional structure in solution
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STRUCTURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nielsen K.J., Thomas I., Lewis R.J., Alewood P.F., Craik D.J. "A consensus structure for omega-conotoxins with different selectivities for voltage-sensitive calcium channel subtypes: comparison of MVIIA, SVIB and SNX-202."; J. Mol. Biol. 263:297-310(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           spectroscopy.";
FEBS Lett. 370:163-169(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRUCTURE BY NMR. MEDLINE-97070382;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Atkinson R.A., Kieffer B., Dejaegere A., Sirockin F., Lefevr "Structural and dynamic characterization of omega-conotoxin binding loop exhibits slow conformational exchange."; Biochemistry 39:3908-3919(2000).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=10747778;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRUCTURE BY NMR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nielsen K.J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PubMed=10373375
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                                                                                     MOD_RES
MUTAGEN
MUTAGEN
                                                                                                                                                                                                                                                               PIR;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   "Solution structure and backbone
                                                                                                                                                                                                           PDB;
                                                                          SEQUENCE
                                                                                                                                                       PEPTIDE
                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                Presynaptic
                                                                                                                                                                                                                                                                                                                 FUNCTION: Omega-conotoxins act at presynaptic membranes, they bi and block voltage-sensitive calcium channels (VSCC). This toxin blocks N-type calcium channels.
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
PHARMACEUTICAL: Is under clinical trial by Neurex. It blocks acu pain in patients who no longer obtain relief from opiate drugs. is 100 to 1000 times more potent than morphine. By blocking is 100 to 1000 times more potent that transmit pain signals. Calcium channels it disable nerves that transmit pain signals.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TY
                                                                                                                                                                                                                                                                                    DATABASE: NAME=Ziconotide Source; NOTE=Web WWW="http://docmd.com/ziconotide/".
                                                                                                                                                                                                                                                                C60133;
JH0700;
                                                                                                                                                                                                                                                     10MG;
MKLTCVVÍVAVLLLTACOLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC
                                          Similarity
                                                                                                                                                                                                           03-APR-96.
12-AUG-97.
01-MAR-00.
01-MAR-00.
23-AUG-00.
                                                                                                                                                                                       Signal;
                                                                                                                                                                                                                                                                С60133.
JH0700.
                                                                                                                                                                                                  neurotoxin;
                                Conservative
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%nehn R.E., Gilbert D.E., w
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61
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                                            1.18;
                                                                              MW;
                                                                                                                                                                                          Neurotoxin; Toxin; Calci
tructure; Pharmaceutical
                                   <u>ب</u>
                                   Score 333; DB Pred. No. 2e-2
2; Mismatches
                                                                                       AMIDATION
K->A: LITT
                                                                              E2A32725C81AF31D
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                                                                                                                                                         OMEGA-CONOTOXIN
                                                                                                                                                                               POTENTIAL.
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                                                                                       TION (G-71 PROVIDE AMIDE GROUP).
LITTLE DECREASE IN ACTIVITY.
STRONG DECREASE IN ACTIVITY.
                                            333;
No.
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                                              2e-29;
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s of an omega-
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                                                                                 CRC64;
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                                                          Length
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                                      Indels
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                                                                                                                                                                                                     channel
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                                                                                                                                                                                                                                                                                                     ziconotide;
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opiate drugs. It
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s toxin
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Matches 61
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15-JUN-2002 (Rel. 41, 1
15-JUN-2002 (Rel. 41, 1
Omega-conotoxin CVIA p)
                                       P28881; 09UB25;
01-DEC-1992 (Rel. 24, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
0mega-conotoxin SVIB precursor (SNX-183).
0mus striatus (Striated cone).
                                                                                                                                                                                                                                                                                                                                           DISULFID MOD_RES
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DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                "Novel omega-conotoxins from Conus catus discriminate among neuronal calcium channel subtypes.";
J. Biol. Chem. 27:3535-35344(2000).
-I- FUNCTION: Omega-conotoxins act at presynaptic membranes, they bi and block voltage-sensitive calcium channels (VSCC) (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conús catus (Cat cone).
Eukaryota; Metazoa; Mollusca; Gast
Neogastropoda; Conoidea; Conidae;
NCBI_TaxID-101291;
TISSUE-Venom duct;
                                                                                                                                      CXOB.
                                                                                                                                                                                                                                                                                                                               SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                   Presynaptic neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PubMed=10938268;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TISSUE-Venom duct,
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                                NCBI_TaxID-6493;
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         EQUENCE FROM N.A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  similarity). This toxin blocks N-type calcium channels. SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
                                                                                                                                                                                                                                                                                                                                                                                                                                                        SIMILARITY: BELONGS
                                                                                                                                                                                                                 CTGSCRSGKCG
                                                                                                                                     CONST
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85.9%;
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Last annotation updat
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Pred. No. 5.5e
5; Mismatches
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BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gastropoda; Caenogastropoda;
                                                                                                                                     PRT;
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5.5e-29;
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                                                     Caenogastropoda;
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RESULT 5
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DT 15-JUN-2002
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DISULFID
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MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 selectivities for voltage-sensitive calcium channe comparison of MVIIA, SVIB and SNX-202.";
J. Mol. Biol. 263:297-310(1996)
-i- FUNCTION: Omega-conotoxins act at presynaptic and block voltage-sensitive calcium channels (blocks Nr., Pr., and Qr-type calcium channels.
-i- SUBCILULAR LOCATION: Secreted.
-i- TISSUE SPECIFICITY: EXPRESSED by the venom duc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-93003172; PubMed-1390774;
Ramilo C., Zafaralla G.C., Nadasdi L.,
Gray W.R., Kristipati R., Ramachandran
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Conopeptides from
cloning.";
                                                                                                                                                                                                                                                                                                                                                                                                                       the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          "Novel alpha- and omega-conotoxins Biochemistry 31:9919-9926(1992).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cruz L.J.;
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                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                              Presynaptic Amidation; (
                                                                                                                                                                                                                                                                                                                    Pfam; PF02950; Conotoxin; 1.
Presynaptic neurotoxin; Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                    EMBL; AF146346; AAD31906.1; -. PIR; C44379; C44379.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "A consensus structure for omega-conotoxins with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Nielsen K.J., Thomas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE-97070382; PubMed-8913308;
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Lu B.-S., Yu F., Zhao D., Huang P.-T.,
"Conopeptides from Conus striatus and
                                                                                                                                                                                                                                                                                                   SIGNAL
                                                                                                                                                                                                                                                                                          PROPEP
                                                                                                                                                                                                                                                                                                                                             PDB; 1MVJ; 12-AUG-97.
InterPro; IPR004214; Conotoxin.
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                                                                                                                                 CTGSC-RSGKCG
                                                                                       CSGSCGRSGKCG
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                                                                                                                                                                                       Similarity
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TO THE O-SUPERFAMILY OF CON
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Pred. No. 6.8
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J., Miljanich G.,
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Conus textile
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6.8e-27;
6;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             "Novel omega-conotoxins from Conus catus discriminate among neuronal calcium channel subtypes.";
J. Biol. Chem. 275:35335-35344(2000).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adams D.J., Bond T., Thomas L.J., Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas P.F.; Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoldea; Conidae; Conus.
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SEQUENCE
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                                                                                                                                                                         CXO6_CONGE STANDARD; PRT; 73 AA.

P01522;
21-JUL-1986 (Rel. 01, Created)
21-JUL-1986 (Rel. 28, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
15-JUN-2002 (Rel. 41, Last annotation update)
Comega-conotoxin GVIA precursor (Shaker peptide) (SNX-124) (Contains: Omega-conotoxin GVIB; Omega-conotoxin GVIC).
Conus geographus (Geography cone).
Conus geographus (Geography cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
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           SEQUENCE OF 46-73.
MEDLINE=85072796; PubMed-6509012;
Olivera B.M., McIntosh J.M., Cruz
                                                                                          SEQUENCE FROM N.A.
MEDLINE-93069266; PubMed-1440648;
Colledge C.J., Hunsperger J.P., I
"Precursor structure of omega-con
                                                                             clone."
                                                                                                                                                            NCBI_TaxID=6491;
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FUNCTION: Omega-conotoxins act at presynaptic membranes, and block voltage-sensitive calcium channels (VSCC) (By and block voltage-sensitive calcium channels.

similarity). This toxin blocks N-type calcium channels.

SUBCELLULAR LOCATION: Secreted.

TISSUE SPECIFICITY: Expressed by the venom duct.

TISSUE SPECIFICITY: Expressed by the venom duct.
                                                                   Toxicon
    Purification
                                                                                                                                                                                                                                                                                                                                                                                       61
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                                                                                                                                                                                                                                                                                                                                                                                                               MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC
                                                                                                                                                                                                                                                                                                                                                              CSGSCSGTVGRCG
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59; Conserv
                                                                     30:1111-1116(1992).
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    McIntosh J.M., C
and sequence of
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                                                                                              er J.P., Imperial J.S., Hillyard D.R.; omega-conotoxin GVIA determined from a
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BY SIMILARITY.
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  Cruz L.J., Luque F.A., Gray W.R.;
f a presynaptic peptide toxin from
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Bond T., T
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nes 7;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              geographus venom.";
Biochemistry 23:5087-5090(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE=93332945; PubMed=8338837; Davis J.H., Bradley E.K., Miljanich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               J. Mol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     blocker omega-conotoxin
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STRUCTURE BY NMR OF GVIA.
MEDLINE=99248506; PubMed=10231724;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           calcium channel binding."
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                                                                                                              DISULFID DISULFID DISULFID
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-!- SIMILARITY: BELONGS
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PEPTIDE
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PDB; 10MC; 31-JAN-94.
InterPro; IPR004214; Conotoxin.
                                                                                                      STRAND
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                                                                                                                                                                                                           PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                      FUNCTION: Omega-conotoxins act at presynaptic and block voltage-sensitive calcium channels (SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                             FAMILY.
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A44006; A44006.
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 Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               234:405-420(1993).
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80.0%;
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                                                                                                                                              AMIDATION GVIA).
  Score
Pred.
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                               51A8C8FA630F7175 CRC64;
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    259.5; DB 1
No. 1.6e-21;
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There are no restrictions
ong as its content is in
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F CONOTOXINS.
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             Length 73;
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MEDLINE-98079023; PubMed-9417043;
Shon K.-J., Stocker M., Terlau H.,
Walker C.S., Grilley M.M., Watkins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conus purpurascens (Purple cone)
Eukaryota; Metazoa; Mollusca; Ga
Neogastropoda; Conoidea; Conidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CXK7_CONPU STANDARD; PRT; 72 AA. P5-6633; 15-DEC-1998 (Rel. 37, Created) 15-JUN-2002 (Rel. 41, Last sequence update) 15-JUN-2002 (Rel. 41, Last annotation update) Kappa-conotoxin PVIIA precursor (Fin-popping)
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                                                                                                                             MUTACENESIS OF ARG-47; ILE-48; PRO-49; ASN-50; GLN-51; LYS-52; PHE-54; PHE-54; GLN-55; HIS-56; LEU-57; ASP-58; ASP-59; SER-62; ARG-63; LYS-54; ARG-67; PHE-68; ASN-69 AND LYS-70.

PubMed-10818087;
                                                                                                                                                                                                                            MEDLINE=98217295; PubMed=9548922; Savarin P., Guenneugues M., Gilquin B., Zinn-Justin S., Menez A.;
                                                                 "Single amino acid substitutions in kappa-conotoxin interaction with the shaker K+ channel."; J. Biol. Chem. 275:24639-24644(2000).
                                                                                                                                                                                                                                                                                                                         Scanlon M.J., Naranjo Craik D.J.;
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[3]
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                                                                                                                                                                                                                                                                                                                                                                                                                                   Olivera B.M.;
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PubMed=12074021;
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         Terlau H., Boccaccio
"The block of Shaker
                                  PubMed=10398696;
                                                                                                       Jacobsen R.B., Koch E.D., Lange-Malecki B., St.
Van Wagoner R.M., Vyazovkina A., Olivera B.M.,
                                                                                                                                                                                      "Three-dimensional structure of kappa-conotoxin PVIIA, potassium channel-blocking toxin from cone snails."; Blochemistry 37:5407-5416(1998).
                                                                                                                                                                                                                                                                STRUCTURE BY NMR.
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                                              BLOCKADE OF SHAKER CHANNEL BY PVIIA
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                                                                                                                                                                                                                                                                                      Structure
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                                                                                                                                                                                                                                                                                    structure and proposed binding mechanism channel toxin kappa-conotoxin PVIIA."; 5:1585-1597(1997).
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           channels
        Olivera B.M., Conti F.; channels by kappa-conoto
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M., Hillyard
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         kappa-conotoxin
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M., Terlau H.;
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D.R., Gray W.R.,
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-I- FUNCTION: Kappa-conotoxins bind and inhibit voltage-sensitive
                                                                                                                               MUTAGEN
MUTAGEN
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PROPEP
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          J. Gen. Physiol. 114:125-140(1999).
[7]
                                                                                                     SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PubMed=12023223;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Moran O.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3D-structure;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Neurotoxin; Toxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Naranjo D.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BLOCKADE OF SHAKER CHANNEL BY PVIIA
                                                                                                                                                                                                                                                                                                                                                                                         MUTAGEN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CAUTION: Because analogs resulting of mutagenesis of Hyp-49, 50, Leu-57 and Asp-59 gave very low yields upon folding, the results of mutagenesis on these residues should be interpreta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SÜBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
MASS SPECTROMETRY: MW-3268.4; METHOD-FAB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  with caution
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         single, lethal "fin-pop" in envenomated fish.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    hyperactivity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1AV3; 18-NOV-98
1KCP; 14-OCT-98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OF THE SHAKER-PVIIA INTERACTION
48; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     18-NOV-98.
                                                                                                       72
  Conservative
                                                                                                                                  Signa.
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                                                                                                     8317
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                                                                                                                                                       61.8%;
                          7.68;
                                                                                                     MW;
                                                                                                                                                                                                                                                                                                                                                                              P-A: 100% REDUCTION OF TOXICITY.
N-A: 100% REDUCTION OF TOXICITY.
Q-A: 13-FOLD DECREASE OF TOXICITY.
K-A,R: 100% REDUCTION OF TOXICITY.
F-A,M: 100% REDUCTION OF TOXICITY.
F-Y: 11-FOLD DECREASE OF TOXICITY.
Q-A: 3-FOLD DECREASE OF TOXICITY.
  6
                                                                                                                                                                               D->A:
D->A:
S->A:
S->A:
K->A:
R->A:
F->A:
Pred. No. 9.9
5; Mismatches
                                                  Score 233.5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           R->A,K,Q: 100% REDUCTION OF TOXICITY.
                                                                                                     53BFAF79EE751C16 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KAPPA-CONOTOXIN PVIIA
                                                                                                                                                                                                                                                                                                                                                            L->A:
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A: 1.5-FOLD DECREASE OF TOXICITY.
A: 1.5-FOLD DECREASE OF TOXICITY.
A: 1.5-FOLD DECREASE OF TOXICITY.
A: 3.5-FOLD DECREASE OF TOXICITY.
A: 1.5-FOLD DECREASE OF TOXICITY.
A: 5.FOLD DECREASE OF TOXICITY.
                                                                                                                            17-FOLD DECREASE OF TOXICITY
19-FOLD DECREASE OF TOXICITY
117-FOLD DECREASE OF TOXICITY
.9e-19;
ies 16;
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  Indels
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1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC

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CXOA_CC
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                                         Matches
                                                    Query Match
Best Local
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15-JUN-2002 (Rel. 41, Last annotation update)
Omega-conotoxin SVIA precursor (SNX-157).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Cae
Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CXOA_CONST STANDAH
P28880; Q9UB26;
01-DEC-1992 (Rel. 24,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lu B.-S., Yu F., Znao D., Hummy - Ronopeptides from Conus striatus and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Venom duct;
MEDLINE-20037955; PubMed-10573284;
Lu B.-S., Yu F., Zhao D., Huang P.-T.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ramilo C., Zafaralla G.C., Nadasdi L., Gray W.R., Kristipati R., Ramachandran Cruz L.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Novel alpha- and omega-conotoxins from Conus striatus venom Biochemistry 31:9919-9926(1992).
                                                                                         MOD_RES
MOD_RES
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE=93003172; PubMed=1390774; Ramilo C., Zafaralla G.C., Nadasc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptides
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                                                                                                                                   DISULFID
                                                                                                                                                DISULFID
                                                                                                                                                                                                      SIGNAL
                                                                                                                                                                                                                 Amidation;
                                                                                                                                                                                                                            Presynaptic neurotoxin; Neurotoxin; Toxin;
                                                                                                                                                                                                                                           Pfam; PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                           DISULFID
                                                                                                                                                                                                                                                         InterPro;
                                                                                                                                                                           PEPTIDE
                                                                                                                                                                                      ROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: Omega-conotoxins act at presynaptic membranes, they bind and block voltage-sensitive calcium channels (VSCC).
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            {\tt MKLTCVVIVVVLFLTACQLITADDSRRTQKHRALRSTTKLSLSTRCRIPNQKCFQHLDDC}
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MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMS---TRCKGTGKPCSRIA
                                         l Similarity
47; Conser
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                                                                                                                                                                                                                                                       IPR004214; Conotoxin.
                                                                                                                                                                                                                 Hydroxylation; Signal
                                                                                            23
49
55
55
72
72
                                          Conservative
                                                                                                                                                                                                                                                                        B44379
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                                                     60.7%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                      Score 229.5; DB 1
Pred. No. 2.6e-18;
6; Mismatches, 15
                                                                                                                                                                            OMEGA-CONOTOXIN SVIA
                                                                                                4A6A412E450469A1 CRC64;
                                                                                                              AMIDATION
                                                                                                                         HYDROXYLATION
                                                                                                                                                                                                       POTENTIAL
                                                                                                                                                                                                                                                                                                                                                     e. There are no restrictions long as its content is in
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hammerland L.G., Yoshikami
J., Miljanich G., Olivera
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                                                                                                                                                                                                                                 Calcium channel inhibitor;
                                                                     DB 1;
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Best Local S
Matches 46
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-i- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lu B.-S., Yu F., Zhao D., Huang P.-T., Huang C.-F.; "Conopeptides from Conus striatus and Conus textile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE=20037955; PubMed=10573284;
Lu B.-S., Yu F., Zhao D., Huang P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     the European Bioinformatics Institute.
                                                                                                                                                                                                                                                                                                                                                                                                                             SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Presynaptic neurotoxin; Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Pfam; PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EMBL; AF146361; AAD31921.1; -.
                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                  PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              InterPro;
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  59
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TISSUE SPECIFICITY: Expressed b
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FAMILY.
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                                        YNCCTGSCRSGKC
                                                                                MKLTCMVIVAVLLITACQLITAEDSRGTQKHRTLRSTARRSKSELTTRCRPSGSPCG--V 58
                                                                                                                       MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSD---TKLSMSTRCKGTGKPCSRIA 57
  TSICCGRCSRGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               block voltage-sensitive
                                                                                                                                                                                        Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (Rel. 41,
(Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hydroxylation;
                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                               725
725
725
725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Omega-conotoxins act at presynaptic membranes, voltage-sensitive calcium channels (VSCC) (By
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70
                                            70
                                                                                                                                                                                                                                                           7790 MW;
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72
63
66
71
                                                                                                                                                                                          60.4%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   Signal
                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                        OMEGA-CONOTOXIN SERVICE SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 precursor
                                                                                                                                                                        Score 228.5; DB 1;
Pred. No. 3.4e-18;
B; Mismatches 14;
                                                                                                                                                                                                                                                       HYDROXYLATION (BY SIMILARITY).
AMIDATION (BY SIMILARITY).
4A7E1124F0B7F061 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                  POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Toxin; Calcium channel inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        It is produced through
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  There
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            as its content
                                                                                                                                                                                                                                                                                                                                                                                           SVIA MUTANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Usage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  are no
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                                                                                                                                                                                                                       72;
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                                                                                                                                                                               Gaps
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RESULT 10 CXO1_CONST

CXO1_CONST

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RESULT
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                                                                                                        _CONST
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15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence upda-
15-JUN-2002 (Rel. 41, Last annotation up-
0mega-conotoxin SVIA mutant 1 precursor.
                                                                                                                                                                                                                                                                                                                                             PEPTIDE
DISULFID
DISULFID
                                              09XZK4;
16-OCT-2001 (Rel. 40, Created)
16-OCT-2001 (Rel. 40, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation updata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         use by non-profit institutions as long as its content modified and this statement is not removed. Usage by an entitles requires a license agreement (See http://www.isb-or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TISSUE-Venom duct;

MEDLINE-20037955; PubMed-10573284;

Lu B.-S., Yu F., Zhao D., Huang P.-T., Huang

"Conopeptides from Conus striatus and Conus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conus striatus (Striated cone)
Eukaryota; Metazoa; Mollusca;
Neogastropoda; Conoidea; Conid
                         Omega-type conotoxin SO5.
                                                                                                                                                                                                                                                                                                             MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <del>:</del>
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                                                                                              CXO5_CONST
                                                                                                                                                                                                                                                                                                SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; AF146360; AAD31920.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  cloning
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
  Eukaryota; Metazoa;
            Conus striatus (Striated cone)
                                                                                                                                                                                                                                                                                                                                  DISULFID
                                                                                                                                                                                                                                                                                                                                                                                  PROPEP
                                                                                                                                                                                                                                                                                                                                                                                              SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                        Amidation;
                                                                                                                                                                                                                                                                                                                                                                                                                   Presynaptic
                                                                                                                                                                                                                                                                                                                                                                                                                           Pfam; PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                          InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=6493;
                                                                                                                                                        59
                                                                                                                                                                              58
                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                               1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSD---TKLSMSTRCKGTGKPCSRIA 57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS, OMEGA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SUBCELLULAR LOCATION: Secreted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      similarity)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and block voltage-sensitive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FUNCTION:
                                                                                                                                                        TSICCGRCYRGKC
                                                                                                                                                                               YNCCTGSCRSGKC
                                                                                                                                                                                                   MKLTCVVIVAVLLLTACQLITAEDSRGAQKHRTLRSTARRSKSELTTRCRPSGSPCG--V
                                                                                                                                                                                                                                                   46;
                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                          IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                      Hydroxylation; Signal
                                                                                                                                                                                                                                                                                                72 AA;
                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                neurotoxin; Neurotoxin;
                                                                                                                                                                                                                                                                                                           725
725
725
725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Omega-conotoxins act at presynaptic voltage-sensitive calcium channels (
                                                                                             STANDARD;
                                                                                                                                                        71
                                                                                                                                                                             70
  Mollusca;
                                                                                                                                                                                                                                                                                                '804 MW;
                                                                                                                                                                                                                                                                                                              22
48
72
72
71
72
                                    S05
                                                                                                                                                                                                                                                             59.7%;
63.0%;
                                   precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conidae; Conus
                                                                                                                                                                                                                                                                                                                              POTENTIAL.
OMEGA-CONOTOXIN :
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                                                                                                                                                                                                                                                  Pred. No. 7.107; Mismatches
                                                                                                                                                                                                                                                                        Score
                                                                                                                                                                                                                                                                                               4A7E0560B1AD5420 CRC64;
                                                                                                                                                                                                                                                                                                         HYDROXYLATION (BY SIMILARITY).
AMIDATION (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gastropoda; Caenogastropoda;
 Gastropoda; Caenogastropoda;
                                                                                              PRT;
                                                                                                                                                                                                                                                               225.5;
No. 7.
                                                                                                                                                                                                                                                                                                                                                                                                                   Toxin;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (See http://www.isb-sib.ch/announce/
                                              update)
                                                                                             77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           update)
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                                                                                                                                                                                                                                                                         DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                 Calcium
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                                                                                                                                                                                                                                                                                                                                                                    SVIA
                                                                                                                                                                                                                                                   15;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (VSCC) (By
                                                                                                                                                                                                                                                                                                                                                                    MUTANT
                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                 channel inhibitor;
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Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PEPTIDE
DISULFID
DISULFID
DISULFID
          TISSUE-Venom duct;
MEDLINE-20037955; PubMed-10573284;
Lu B.-S., Yu F., Zhao D., Huang P.-T.,
"Conopeptides from Conus striatus and coloning.";
cloning.";
                                                                                                                                                                                                                                                                            16-OCT-2001
16-OCT-2001
15-JUN-2002
                                                                                                                                                     Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                        CXO4_CONST Q9XZK3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              entities requires a license agreement (S or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Peptides 20:1139-1144(1999).
-i- FUNCTION: Omega-conotoxins act at pr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE-Venom duct; pubMed-10573284; MEDLINE-20037955; PubMed-10573284; Lu B.-S., Yu F., Zhao D., Huang P.-T., "Conopeptides from Conus striatus and o
                                                                                                                                                                                                                                        S04
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      <del>:</del>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                         Omega-type conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Signa.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pfam; PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; AF146350;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Presynaptic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        InterPro;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Neogastropoda; Conoidea; Conidae; Conus
                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 C-GYC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CTGSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MKLTCVMIVAVLLLTACQLITADDSRGTQKHRSLRSTTKVSKSTSCMEAGSYCGSTTRIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SUBCELLULAR LOCATION: Secreted (By similarity).
TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
20:1139-1144(1999)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    46350; AAD31910.1; -- IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  65
                                                                                                                                                                                                                                                                            (Rel. 40,
(Rel. 40,
(Rel. 41,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conservative
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53
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                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8372 MW;
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42
61
71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         58.9%;
                                                                                                                                                                                                                                                       SO4 precursor.
                                                                                                                                                                                                                                                                            Last sequence u
                                                                                                                                                                                                                                                                                                                       Created)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OMEGA-TYPE CONOTOXIN SO5
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
OFB5F480C7709CE9 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ψ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 222.5;
Pred. No. 1.
                                                                                                                                                                                             Gastropoda; Caenogastropoda;
                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                  update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Toxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          presynaptic
um channels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conus textile
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                update)
                                                                                                                                                                                                                                                                                                                                                             78
                                                      Huang
                                                                                                                                                                                                                                                                                                                                                               3
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Calcium
                                       textile
                                                        ဂ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      15;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 77;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SO5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
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and block voltage-sensitive

Omega-conotoxins act at presynaptic voltage-sensitive calcium channels

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DISULFID
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This
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16-OCT-2001 (Rel. 4
15-JUN-2002 (Rel. 4
Omega-conotoxin PuI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Signal.
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16-OCT-2001
                                                                                                                                                              Zhao D., Yao J., Dai
Submitted (MAR-1999)
                                                                                                                                                                                                                     Eukaryota; Metazoa;
Neogastropoda; Conoi
                                                                                                                                                                                                                                        Conus pulicarius (Flea-bite cone)
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                                                                                                                                                                                     EQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBCELLULAR LOCATION: Secreted (By similarity).
TISSUE SPECIFICITY: Expressed by the venom duct.
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
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                                                                                                                                      o D., Yao J., Dai Q., Huang P.;
mitted (MAR-1999) to the EMBL/GenBank/DDBJ databases.
FUNCTION: Omega-conotoxins act at presynaptic membranes,
and block voltage-sensitive calcium channels (VSCC) (By
                                                                                          SUBCELLULAR LOCATION:
TISSUE SPECIFICITY: EX
SIMILARITY: BELONGS TO
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similarity)
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                         European Bioinformatics Institute. The by non-profit institutions as long
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                    SWISS-PROT entry is copyright. It is produced through een the Swiss Institute of Bioinformatics and the EM European Bioinformatics Institute. There are no restrictly non-profit institutions as long as its content by non-profit institutions as long as its content.
                                                                                                                                                                                                                                                                                                                                                                                 CCGFC
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  non-profit institutions as long as its content is and this statement is not removed. Usage by and for commercial requires a license agreement (See http://www.isb-sib.ch/announce/
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Last annotation updat
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Expressed by the venom duct.
TO THE O-SUPERFAMILY OF CONOTOXINS.
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POTENTIAL.

OMEGA-TYPE CONOTOXIN :

BY SIMILARITY.

BY SIMILARITY.

BY SIMILARITY.
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Pred. No. 3
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dae; Conus.
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01-NOV-1990 (Rel. 16, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Delta-conotoxin TxVIA precursor (TxIA) (Conotoxin King-Kong Conus textile (Cloth-of-gold cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda; Neogastropoda; Conoidea; Conidae; Conus.
NCBL TaxID-6494;
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Hillyard D.R., Cruz L.J.;
Ramilo C.A., Cruz L.J.;
*A molluscivorous Conus toxin:
*A molluscivorous 28:358-361(1989).
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                                                                                                                                                                                                                                                   MEDLINE-92104183; PubMed=1761058; Fainzilber M., Gordon D., Hasson A., Mollusc-specific toxins from the ve neovicarius.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.

MEDLINE-90214607; PubMed-1691090;

Woodward S.R., Cruz L.J., Olivera B.M., Hillyard D.R.;

Woodward S.R., Cruz L.J., olivera in conotoxin prope

"Constant and hypervariable regions in conotoxin prope

EMBO J. 9:1015-1020(1990).
PubMed=8300586;
Fainzilber M., Koi
"A new neurotoxin
                                                                                                  Hasson A., Fainzilber M., Gordon Hasson A., Fainzilber M., Gordon Halteration of sodium currents b a molluscivorous Conus snail.", Eur. J. Neurosci. 5:56-64(1993).
                                                                                                                                                                                                                                                                                                                                   STRAIN=Neovicarius;
                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 52-78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDLINE=89207553;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE OF 52-78.
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                                                                                                                                                                       MEDLINE=94084232;
                                                                                                                                                                                              CHARACTERIZATION
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                    Kofman O.,
                                                                                                                                                                                                                                     202:589-595(1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PubMed-2706261;
                                                                                                                                                         PubMed=8261090;
lber M., Gordon D.,
    fman O., Zlotkin E., receptor site on so
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Pred. No. 3.3e
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OMEGA-CONOTOXIN PUBY SIMILARITY.
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nes 22;
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tins from the
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RESULT 15
CXK1_CONTE
ID CXK1_C
AC P18512
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P18512;

T 01-NOV-1990 (Rel. 16, Created)

T 01-NOV-1990 (Rel. 16, Last sequence update)

DT 15-JUN-2002 (Rel. 41, Last annotation update)

Connotoxin King-Kong 1 precursor (KK-1).
                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                            Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Delta-conotoxin GmVIA, gloriamaris.";
                                                                                                                                                                                                                                                                                                                                                                                                   DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed. entitles requires a license agreement (See or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 conotoxin that affects sodium channel acts as an antagonist in rat brain."; J. Biol. Chem. 269:2574-2580(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochemistry 33:11420-11425(1994).
                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PIR; A30103; A30103
PIR; S12513; S12513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDLINE=95001845; PubMed=7918355;
Shon K.-J., Hasson A., Spira M.E., Cruz L.J., Gray W.R., Olivera B.M.;
"Delta-conotoxin GmVIA, a novel peptide from the venom of Conus
                                                                                                                                                                                                                                                                                                                                                                                        DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Pfam; PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; X53283; CAA37377.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   between
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                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cleavage on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nterPro;
                                                                                                                                                                                            13
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of the peptide, a subordinate lobster assumes an exaggerated dominant posture (of a 'King-Kong' lobster!).
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
MISCELLANEOUS: Veratridine increases the rate of dissociation dose-dependent manner.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                and rat central nervous system, but despite its high affinity binding to rat sodium channel, it has no functional effect in vivo and in vitro on it. Has also no effect on Gambusia fish. Is important in mollusk for the paralysis of the prey. Upon injection of the peptide, a subordinate lobster assumes.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SIMILARITY: BELONGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      this toxin is strongly calcium-dependent but not voltage-
dependent. The binding site is most likely on the extracellular
side of the sodium channel. Binds receptor sites on both mollus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION: Delta-conotoxins bind to voltage-sensitive sodium channel (VSSC) and inhibit the inactivation process. Binding of this toxin is strongly calcium-dependent but not voltage-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SWISS-PROT entry is copyright. It is produced through a collaboration een the Swiss Institute of Bioinformatics and the EMBL outstation -
                                                                                                                                                                                                                      SRIAYNCCTGSC
                                                                                                                                                                                                                                                                               MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTR-CKGTGKPC 53
                                                                                                                                                                                            NLLDQNCCDGYC
                                                                                                                                                                                                                                                   MKLTCMMIVAVLFLTAWTFATADDPRNGLGNLFSNAHHEMKNPEASKLNKRWCKQSGEMC
                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                      78 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pair of
                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Toxin;
                                                                                                                                                                                                                                                                                                                                                                                        52
53
57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sodium channel inhibitor;
                                                                                                                                                                                                                                                                                                                                                                       8760 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           basic residues
                                                                                                                                                                                                                                                                                                                                                                                                      78
78
72
                                                                                                                                                                                                                                                                                                                         35.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TO THE O-SUPERFAMILY OF CONOTOXINS. DELTA-TYPE
                                                                                                                                                                                                                                                                                                             12;
                                                                                                                                                                                                                                                                                                                            Pred.
                                                                                                                                                                                                                                                                                                                                         Score
                                                                                                                                                                                                                                                                                                                                                                       C5CBFD462AD40A35 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                  DELTA-CONOTOXIN TXVIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                             POTENTIAL.
                                                                                                                                                                                                                                                                                                             Mismatches
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No. 3.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (See http://www.isb-sib.ch/announce/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               There are no rest
                                                                                                                                                                                                                                                                                                                           .5e-08;
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61

MIRHTCCVGVC

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65 71 MKLTCMMIVAVLFLTAWTFATADDSSNGLENLFSKAHHEMKNPEASKLNKRCIEQFDPCE

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Search completed: May 20, Job time: 21.7083 secs

2003, 15:38:59

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                                                                              DISULFID DISULFID DISULFID
                                                                                                                        SIGNAL
PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                  Conus textile (Cloth-of-gold cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
                                                                   SEQUENCE
                                                                                                                                                           Pfam;
                                                                                                                                                                                  PIR;
                                                                                                                                                                                                                 or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                      the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                       This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the EN
                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.

MEDLINE=90214607; PubMed=1691090;

Moodward S.R., Cruz L.J., Olivera B.M., Hillyard

"Constant and hypervariable regions in conotoxin

EMBO J. 9:1015-1020(1990).
                                                                                                                                                 Neurotoxin;
                                                                                                                                                                                            EMBL; X53284; CAA37378.1;
                                                                                                                                                                                                                             entities requires a license agreement
                                                                                                                                                                                                                                                                                                           -!- SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS
                                                                                                                                                                                                                                                                                                                                -!- MISCELLANEOUS:
                                                                                                                PEPTIDE
                                                                                                                                                                      InterPro;
   \vdash
                                                                                                                                                                                                                                                                                                                                 TISSUE SPECIFICITY: Expressed by the MISCELLANEOUS: THE CYSTEINE PATTERN
                                                                                                                                                                                                                                                                                                                       IDENTICAL.
  MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTRCKGTGKPCS
                                                                                                                                                                                S12514; S12514
                                                                                                                                                             PF02950; Conotoxin;
                                   Similarity
                                                                                                                                                                     IPR004214; Conotoxin.
                                                                                                                                                Toxin;
                        Conservative
                                                                                         523
523
54
                                                                   ΑĄ,
                                                                                                                                    Signal; Cleavage on 22 POTENTTAL
                                                                    8690 MW;
                                                                                            49
77
67
                                   35.7%;
                       10;
                                                                              BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
                      Score 135; DB 1; pred. No. 3.9e-08; Pred. No. 3.9e-27;
                                                                    A3EA4B5AC834E5A4 CRC64;
                                                                                                                CONOTOXIN KING
                                                                                                                                                                                                                                                                                                                                             the
                                                                                                                                                                                                                             (See http://www.isb-sib.ch/announce/
                                                                                                                                               pair
                                                                                                                                                                                                                                                There are no rest
                                                                                                                                                                                                                                                                                                                                 OF.
                                                                                                                                                                                                                                                                                                                                             venom duct
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                                                                                                                                                of.
                                                                                                                -KONG
                                                                                                                                                                                                                                         Usage
                                                                                                                                                 basic
                                            Length 77
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                                                                                                                                                                                                                                                                                                                                                                 propeptides.";
                                                                                                                                                                                                                                                                                                                                                                              D.R.;
                        Indels
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Maximum DB
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Perfect score:
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Pred. No. is the number of results predicted by chance score greater than or equal to the score of the result and is derived by analysis of the total score distribut to have a being printed,

SUMMARIES

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324	327	349	350	352	356	359	376	377	378	Score
85.7	86.5	92.3	92.6	93.1	94.2	95.0	99.5	99.7	100.0	Query Match Length DB
71	71	71	71	71	71	71	71	71	71	ength I
14	23	23	23	23	21	23	23	23	23) B
AAR38795	ABB96632	ABB96609	ABB96661	ABB96607	AAY87541	ABB96680	ABB96629	ABB96634	ABB96657	ID
Conotoxin preprope	Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Conotoxin peptide	Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Description

45	44	43	42	41	40																	23	22	21	20	19	18	17	16	15	14	13	12	11
232	232		233.5			237.5	238.5	239	241.5	245.5	247.5	248.5	248.5	251.5	259.5	259.5	259.5	268.5	268.5	269.5	271.5	296	296	300	301	303	304	304	305	306	311	314	319	324
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-conopeptid	-conopeptid	a-conopeptid	7		conopept		-conopeptid			•				Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Conotoxin preprope	•				-conopeptid	•		a L	-conop	-	-conopeptid	-conopeptid	-conopeptid	-conopeptid	<pre>-conopeptid</pre>	conopeptid	Omega-conopeptide

ALIGNMENTS

RESULT 1 ABB96657

ABB96657 standard; Peptide; 71 AA.

ABB96657;

12-JUL-2002 (first entry)

Omega-conopeptide M6.1 propeptide.

omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain tryoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia. ischaemia;

Conus magus.

WO200207675-A2

31-JAN-2002.

23-JUL-2001; 2001WO-US23041

21-JUL-2000; 2000US-219616P 05-FEB-2001; 2001US-265888P

(UTAH) UNIV UTAH RES FOUND (COGN-) COGNETIX INC.

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RESULT 2
ABB96634
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimgraine, antidiabetic, cardiovascular, antiinflammatory, antimgraine, antidiabetic, cardiovascular, antiinflammatory, antimgraine, antidiabetic, cardiovascular, antiinflammatory, antimgraine, antidiabetic, cardiovascular, antiinflammatory, antimgraine, and neuroleptic. Cardiovascular, antipsychotic, anxiolytic and neuroleptic cardiovascular helps which as neurological cardiovascular cardiovascular channels such as neurological cardiovascular accident, brain or spinal chord trauma, drowning, cardiovascular accident, brain or spinal chord trauma, drowning, cardiovascular accident, brain or spinal chord trauma, drowning, cardiovascular disorders. They may also be used cardiovascular psychiatric disorders e.g. psychosis, anxiety or cardiovascular of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in carciovascular cardiovascular conopeptide propeptide
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Matches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New omega-conopeptides useful for treating voltage gated ion channels e.g. pain, inflacardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-PSDB;
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Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to isolated omega-conopeptides, nucleic ac
sequences encoding them, and propeptide sequences. The activity
the peptides of the invention may be described as, analyssic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim
                                                                                                          Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epileps; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                       Omega-conopeptide Cn6.7 propeptide
                                                                                                                                                                                                                                                                                                          12-JUL-2002
                                                                                                                                                                                                                                                                                                                                            АВВ96634;
                                                                                                                                                                                                                                                                                                                                                                           ABB96634 standard;
                                                                                                 psychosis;
                                  WO200207675-A2
                                                                  Conus
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                                                                                                                                                                                                                                                                                                                                                                                                                                                              CTGSCRSGKCG
                                                                  consors.
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| 71; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Page 52; 195pp;
                                                                                                     anxiety;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              100.0%;
ilarity 100.0%;
Conservative (
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Jones RM, Cartier GE;
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                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AA;
                                                                                                                                                                                                                                                                                                                                                                            Peptide;
                                                                                                      schizophrenia
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Pred. No. 4.3e-33;
; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disorders associated with
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The invention relates to isolated omega-conopeptides, nucleic acid consequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, canticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cerebroprotective, cardiant, neuroprotective, cerebroprotective, antingraine, antidabetic, cerebrotes, cerebrotes, antipsychotic, anxiolytic and neuroleptic. Cerebrotes, cer
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      KW KW XXX DEXXXX
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1(c); Page 40; 195pp; English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilep neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemi stroke; cerebrovascular accident; brain trauma; spinal chord trauma drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pal
                                                                                                           Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
                                                                                                                                                                           Omega-conopeptide Cn6.2 propeptide.
                                                                                                                                                                                                                      12-JUL-2002
                                                                                                                                                                                                                                                                    АВВ96629
                                                                                                                                                                                                                                                                                                           ABB96629 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
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                                                                                                                                                                                                                                                                                                                                                                                                                    CTGSCRSGKCG
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2001US-265888P
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Jones RM,
                                                                                                                                                                                                                      (first entry)
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                                                                                                                                                                                                                                                                                                             Peptide;
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98.6%;
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, Cartier GE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Score 377; DB
; Pred. No. 5.5e
1; Mismatches
                                                                                                                                                                                                                                                                                                                  71 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Garrett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB
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                                                             ischaemia;
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                                                                                    epilepsy;
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RESULT 4
ABB96680
ID ABB9
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AC ABB9
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DE Ome9
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                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1(c); Page 38; 195pp; English.
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05-FEB-2001; 2001US-265888P.
  Omega-conopeptide S6.3 propeptide.
                                         12-JUL-2002
                                                                                ABB96680;
                                                                                                                      ABB96680 standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
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                                       (first entry)
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                                                                                                                                                                                                                       71
                                                                                                                      Peptide; 71
                                                                                                                                                                                                                                                                                                                                                                                               99.5%;
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                                                                                                                                                                                                                                                                                                                                                                              Score 376; DB 2
Pred. No. 7e-33;
1; Mismatches
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  RESULT
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Best Local
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Jacobsen R,
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                Sequence
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                                                            CTGSCRSGKCG
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tranquilliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gas ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be unigraine; inflammation or cardiovascular disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                                                             for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analyesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotectrovascular, antiinflammatory, antimigraine, antidiabetic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New omega-conopeptides useful for treating voltage gated ion channels e.g. pain, inflactardiovascular disorders -
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Claim 1(c); Page 62; 195pp; English.
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                                      1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC
MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKAAGKSCSRIAYNC
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                                                                                                                                                Conservative
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2001US-265888P
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Jones RM, Ca
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  schizophrenia
                                                                                                                                                                                   95.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  M, Watkins M,
Cartier GE;
                                                                                                                                                0;
                                                                                                                                            Score 359; DB 23;
Pred. No. 4.5e-31;
0; Mismatches 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            inflammation, neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Garrett JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               disorders associated with
                                                                                                                                                                                                                  Length
                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Shon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cerebroprotective,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cardiant;
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                                                                                                                                                Gaps
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AAY87541 standard; protein;

71 AA

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RESULT 6
ABB96607
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                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                         brocade come shell (Conus textile) or the line cone shell (Conus striatus). The cDNA sequences were used to determine the conotoxin precursor protein sequences, and the sequences of the mature conotoxin peptides were inferred from the precursor sequences. The mature conotoxin peptides can be obtained via chemical synthesis or by in vitro gene expression. Conotoxins inhibit the function of neurons and muscle cells. Certain conotoxins interfere with synaptic transmission, while others act on muscle or at the neuronuscular junction. The 14 novel conotoxins have unique receptor specificity and affinity, so can be used as screening tools to identify new drugs. Conotoxin #11 (AAX87540) may be used for pain relief. Sequences AAX87421, AAX87533, AAX87559, AAX87541, AAX87529, AAX87531, AAX87533, AAX87537, AAX87539, AAX87541, AAX87543, AAX87545 and AAX87547 represent the precursors of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CN1237584-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conotoxin precursor; neuronal inhibitor;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Conotoxin peptide #11 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         18-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAY87541;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                      snails (Conus species); conotoxin precursor proteins; and cDNAs encoding the conotoxin precursors. The mature peptide sequences were discovered by obtaining conotoxin cDNA sequences from mRNA from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conotoxin peptide from brocade cone shells useful as analyesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        30-APR-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1A; Page 5-6; 20pp; Chinese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Lu B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (BIOL-) BIOLOGICAL ENG INST ACAD MILITARY MEDICI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-APR-1999;
                                                                                                                                                                                                                      Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to 14 novel mature conotoxin peptides from marine
                                                                                                                                                                                                                                                  conotoxins #1-#14,
                                                       61
                                                                               61
                                                                                                           2000-351193/31
                                                                       CTGSCRSGKCG 71
                                                       CTGSCRSGKCG
                                                                                                                                                                  1 Similarity
67; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAA10463
                                                                                                                                                                                                                         71
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                                                                                                                                                                   Conservative
                                                                                                                                                                                                                         AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /note= "Encoded by ATG"
                                                          71
                                                                                                                                                                                                                                                  respectively.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         muscle inhibitor; analgesic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     brocade cone shell; line cone shell; drug screening;
                                                                                                                                                                                94.28;
                                                                                                                                                                                  Score 356; DB 21;
Pred. No. 9.5e-31;
                                                                                                                                                                     Mismatches
                                                                                                                                                                                                DB 21;
                                                                                                                                                                                               Length 71;
                                                                                                                                                                      Indels
                                                                                                                                                                      0;
                                                                                                                                                                      Gaps
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Matches Query Match

Local

Similarity

93.1%; nilarity 93.0%; Conservative

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Score 352; DB 23; Pred. No. 2.5e-30; Mismatches

Length 71; Indels

0;

Gaps

0;

60 60

Sequence

71

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cc anticonvulsant, vasotropic, cardiant, neuroprotective, certainvascular, vasotropic, cardiant, neuroprotective, certainprotective, antidiabetic, certainprotective, antidiabetic, certainprotective, antidiabetic, certainprotective, antidiabetic, certainprotective, antidiabetic, certainprotective, antidiabetic, antidiapetic antidiapetic certainprotective, and the interprotective and neurological certainprotective, and the policy of voltage gated in channels such as neurological certainprotective, certainprotective, and troposition and interprotective, and troposition and interprotective, certainprotective, and toxicity, and are non-addictive. The sequences given in certainprotective, and toxicity, and are non-addictive. The sequences given in certainprotective, and are non-addictive. The sequences given in certainprotective.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Omega-conopeptide Ay6.1 propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  12-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABB96607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ABB96607 standard; Peptide; 71 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (UTAH )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO200207675-A2
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             psychosis; anxiety;
                                                                                                                                                                                                                                                                                                                           The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic,
                                                                                                                                                                                                                                                                                                                                                                                                                                   New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or cardiovascular disorders - \,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2002-257318/30.
N-PSDB; ABL98867.
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Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-JUL-2000;
05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1(c); Page 28; 195pp; English.
                                  sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           UNIV UTAH RES
COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Mcintosh Jones RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2000US-219616P.
2001US-265888P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jones
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JM, Watkins M,
, Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FOUND
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CTGSCRSGKCG CTGSCRSGKCG 71

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RESULT 7
ABB96661
The invention relates to isolated omega-conopeptides, nucleic acid CC sequences encoding them, and propeptide sequences. The activity of CC the peptides of the invention may be described as, analgesic, CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, CC cardiovascular, antiinflammatory, antimigraine, antidiabetic, CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. CC peptides of the invention act by modulating the activity of voltage gated CC ion channels. They may be used for treating or preventing disorders CC associated with voltage gated ion channels such as neurological CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury CC associated with conditions of hypoxia, anoxia, ischaemia, stroke, CC crebrovascular accident, brain or spinal chord trauma, drowning, CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. CC migraine; inflammation or cardiovascular disorders. They may also be used CC for treating psychiatric disorders e.g. psychosis, anxiety or CC schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in CC records ABB96597-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; carebroprotective; cardiovascular; antinflammatory; antimigraine; antiddabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; magraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosia: anylativ. schiepshysia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Olivera
                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1(c); Page 53; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Jacobsen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UTAH
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        psychosis; anxiety; schizophrenia.
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DB; ABL98920.
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2001US-265888P
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Jones RM, Cartier GE;
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RESULT 8
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Best Local Similarity
Matches 67; Conserv
The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquillser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder.
                                                                                                                                                                                                                                 Claim 1(c); Page 29; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                              Olivera BM,
Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               21-JUL-2000;
05-FEB-2001;
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                                                                                                                                                                                                                                                                 cardiovascular disorders
                                                                                                                                                                                                                                                                          New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
                                                                                                                                                                                                                                                                                                                               N-PSDB; ABL98869.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              psychosis;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         standard;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              anxiety;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (first entry)
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2001US-265888P
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                                                                                                                                                                                                                                                                                                                                                                                               Mcintosh
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                                                                                                                                                                                                                                                                                                                                                                                RM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     92.6%;
                                                                                                                                                                                                                                                                                                                                                                                               ,MC
                                                                                                                                                                                                                                                                                                                                                                                Cartier
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rtier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 350; DB 23; Pred. No. 4.1e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A
A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                               Garrett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            epilepsy;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       60
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migraine; inflammation or cardiovascular disorders. They may also be for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide

side used

Š 밁 VΩ

61 61

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1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC

Best Loc Matches Query Match

66; Similarity

Conservative

92.3%;

Score 349; DB 23; Pred. No. 5.3e-30;

Length Indels

0

Gaps

0;

60 60 Mismatches

Local

Sequence sequences.

71 AA;

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CTGSCRSGKCG CTGSCRSGKCG 71

71

12-JUL-2002 АВВ96632

(first entry)

Omega-conopeptide Cn6.5 propeptide.

ABB96632 standard;

Peptide;

71

8

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RRESULT 9
RAB96163 9
ADB96163 ABB96
XX ABB96
XX ABB96
XX 12----
XX Omee
DE Omee
CWW neu
KW neu
KW annt.
KW annt.
KW dro
KW dro
KW dro
KW dro
KW bsy
XX Con
XX Con
XX X
   Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiavascular; antinflammatory; neurolariane; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; anxiolytic; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; inflammation; cardiovascular disorder; psychiatric disorder; nigraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                         21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                psychosis; anxiety; schizophrenia.
The invention relates to isolated omega-conopeptides, nucleic acsequences encoding them, and propeptide sequences. The activity the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebropic cardiovascular, antiinflammatory, antimigraine, antidiabetic.
                                                                                                                                                                                                                                                                                                                    (UTAH )
(COGN-)
                                                                                                                                                                                                                                                                                                                                                                                                                             23-JUL-2001; 2001WO-US23041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conus consors.
                                                                                                                                                                                                                                                                    Olivera BM,
Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WO200207675-A2
                                                                                                                                                 New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or cardiovascular disorders
                                                                                                        Claim 1(c); Page 39; 195pp; English
                                                                                                                                              cardiovascular disorders
                                                                                                                                                                                                                   N-PSDB;
                                                                                                                                                                                                                                    2002-257318/30.
                                                                                                                                                                                                                                                                                                                        UNIV UTAH RES COGNETIX INC.
                                                                                                                                                                                                                   ABL98891.
                                                                                                                                                                                                                                                                       Mcintosh
Jones RM,
                                                                                                                                                                                                                                                                                                                                                                          2000US-219616P.
2001US-265888P.
                                                                                                                                                                                                                                                                                                                                           FOUND
                                                                                                                                                                                                                                                                     JM, Watkins M,
, Cartier GE;
                                                                                                                                                                                                                                                                                            Garrett
                                                                                                                                                                                                                                                                                            JE,
                                                                                                                                                                                                                                                                                              Shon
                            cerebroprotective,
                                                                 acid
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The sequences given in AAR38795-96 represent two examples of calcium channel four loop toxins. They are MVIIB from Conus magus and GVIA

Example 1;

Column

8

15pp; English

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RESULT 10
AAR38795
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Best Local S
Matches 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gardion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be undertained the contraction of cardiovascular disorders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                  Conotoxin prepropeptide MVIIB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAR38795;
                                                                                                                                                                                                                                                                                                                                   Key
                                                                                                                                                                                                                                                                                                                                                                                                              Calcium channel;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               22-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAR38795 standard; peptide;
                                                                        Formation of cysteine-rich peptide of specified disulphide bonding involves forming prespro-peptide with N-terminal excised region whis acts as templates for directing disulphide bond formation in
                                                                                                                                                                                                                                                                                                                                                            Conus magus
                                                                                                                                                                                                                                                                                                                                                                                    cysteine;
                                                                                                                                                                                                         18-APR-1991;
                                                                                                                                                                                                                                18-APR-1991;
                                                                                                                                                                                                                                                        27-JUL-1993
                                                                                                                                                                                                                                                                                  US5231011-A
                                                                                                                                                                                                                                                                                                                      Region
                                                                                                                             WPI; 1993-249725/31.
                                                                                                                                                                              (UTAH ) UNIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 CTGSCRSGKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              \vdash
                                                                                                                                                                                                                                                                                                                                                                                                geographus;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGSCNRGKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Similarity
                                                                                                                                                        DR,
                                                                                                                                                                                                                                                                                                                                                                                    hannel; four loop; toxin; MVIIB; Conus magus; GVIA; phus; conotoxin; presynaptic; specificity; calcium tomega; framework; template domain.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ΑĄ.
                                                               peptide
                                                                                                                                                        Olivera
                                                                                                                                                                                                         91US-0689693
                                                                                                                                                                                                                                 91US-0689693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      71
                                                                                                                                                                                                                                                                                                                        Location/Qualifiers 46..70
                                                                                                                                                                                                                                                                                                             /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              86.5%;
85.9%;
                                                                                                                                                         BM
                                                                                                                                                                                                                                                                                                             "Mature omega-toxin"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 327; DB 23;
Pred. No. 1.2e-27;
3; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                                                                                                                                                                                      neurone;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        gated
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epilepsy;

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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local :
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cysteines referred to as the omega pattern. The cysteine framework of these two peptides differs only in the exact amino acid spacing of the two carboxy terminal inter-Cys domains. Beyond the similarity of the framework the two peptides are remarkably divergent. Only nine of the 21 non-Cys amino acids of the omega-GYIA are conserved in the omega-MYIIA. MYIIB and GYIA template domains are each 45 amino acids in length. They also show a >90% conservation of amino acid sequences with only 4 positions of amino acid non-identity. These two sequences illustrate the existence of two highly conserved template domains associated with two structurally dissimilar toxins.
                                                                                                                                                                                                                                                                                                                                                                     Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy, neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                from C. geographus. These conotoxins target presynaptic calcium channels and have largely overlapping specificities for different calcium targets in neuronal tissue preparations. These peptides form a four loop folded toxin molecule with a specific arrangement of
(UTAH )
(COGN-)
                                                                                                      Olivera BM,
Jacobsen R,
                                                                                                                                                                                              21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                         23-JUL-2001;
                                                                                                                                                                                                                                                                       31-JAN-2002
                                                                                                                                                                                                                                                                                                   WO200207675-A2
                                                                                                                                                                                                                                                                                                                                Conus monachus
                                                                                                                                                                                                                                                                                                                                                            psychosis; anxiety;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Omega-conopeptide Mn6.2 propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             12-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ABB96662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ABB96662 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAVNC 60
                                                                        2002-257318/30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CTGSCRSGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGKGASCHRTSYDC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CTGSCNRGDCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61;
                                                                                                                                                                  UNIV UTAH RES FOUND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                   COGNETIX INC.
                                                             ABL98921.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         71 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                       Mcintosh
Jones RM,
                                                                                                                                                                                            2000US-219616P
2001US-265888P
                                                                                                                                                                                                                                        2001WO-US23041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71
                                                                                                                                                                                                                                                                                                                                                          schizophrenia.
                                                                                         n JM, warn.
M, Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           85.7%;
85.9%;
                                                                                                                     Watkins M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 324; DB 14;
Pred. No. 2.4e-27;
2; Mismatches 8;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       . 60
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RESULT 12
ABB96659
ID ABB96
XX AB96
XX AB96
XX AB96
XX Omega
XX Official of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gation channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be u for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of the invention show diminished seffects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analyesic, the peptides of the invention may be described as, analyesic, cardiant, neuroprotective, cerebroprotective,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiavascular; antiinflammatory; antimigraine; antidabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; selzure; epilepsy neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder
   Olivera BM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1(c); Page 54; 195pp; English
                                                                                                                                                            21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                                                        23-JUL-2001; 2001WO-US23041
                                                                                                                                                                                                                                                                                                                   31-JAN-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                            Conus magus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Omega-conopeptide w-MVIIB propeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     12-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ABB96659 standard; Peptide; 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cardiovascular, antiinflammatory, antimigraine, antidiabetic
                                                              (UTAH ) UNIV UTAH RES FOUND (COGN-) COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       АВВ96659;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    sequences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CTGSCNRGKCG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CTGSCRSGKCG 71
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    62;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             71
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                                                                                                                                                         2000US-219616P
2001US-265888P
   Mcintosh JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ξ
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87.3%;
      Watkins
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Pred. No. 2.4e-27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mismatches
   X,
   Garrett JE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               23;
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   ζ,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    epilepsy;
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Claim 1(c); Page 52; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Jacobsen R,
                                                                   neuroprotective; cerebróprotective; cardiovascular; antinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                  Omega-conopeptide; analgesic; anticonvulsant; vasotropic;
                                                                                                                                                                   Omega-conopeptide Cn6.4 propeptide.
                                                                                                                                                                                      12-JUL-2002
                                                                                                                                                                                                           АВВ96631;
                                                                                                                                                                                                                             ABB96631 standard;
                  31-JAN-2002
                                     WO200207675-A2
                                                      Conus consors.
23-JUL-2001; 2001WO-US23041
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DB; ABL98918.
                                                                                                                                                                                                                                                                                                              MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC 60
                                                                                                                                                                                                                                                                                           CTGSCRSGKCG 71
                                                                                                                                                                                                                                                                           CTGSCNRGKFG
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                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RM.
                                                                                                                                                                                                                              Peptide;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        isolated omega-conopeptides, nucleic acid and propeptide sequences. The activity of
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                                                                                                                                                                                                                                73
                                                                                                                                                                                                                                                                                                                                                      Score 319; DB 23;
Pred. No. 8.2e-27;
2; Mismatches 8;
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cc ardiovascular, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antinflammatory, antimigraine, antidiabetic, cardiovascular, antinflammatory, antimigraine, antidiabetic, cremptides of the invention act by modulating the activity of voltage gated con channels. They may be used for treating or preventing disorders con channels. They may be used for treating or preventing disorders consociated with voltage gated ion channels such as neurological consociated with conditions of hypoxia, anoxia, ischaemia, stroke, cc associated with conditions of hypoxia, anoxia, ischaemia, stroke, cc associated with conditions of hypoxia, anoxia, ischaemia, drowning, cc suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. cc suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. cc migraine; inflammation or cardiovascular disorders. They may also be used configuration psychiatric disorders e.g. psychosis, anxiety or for treating psychiatric disorders e.g. psychosis, anxiety or cardiovascular of the invention show diminished side schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in crecords ABB96595-ABB96697 represent omega-conopeptide propeptide
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05-FEB-2001;
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Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UTAH ) UNIV UTAH RES FOUND. (COGN-) COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              sequences encoding them, and propeptide sequences. The activithe peptides of the invention may be described as, analyssic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to isolated omega-conopeptides, nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Claim 1(c); Page 39; 195pp;
             omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; setzure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
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                                                                                                                                                                                                                                                     ABB96624;
                                                                                                                                                                             Omega-conopeptide Cr6.1 propeptide.
                                                                                                                                                                                                                   12-JUL-2002
                                                                                                                                                                                                                                                                                       ABB96624 standard;
psychosis; anxiety; schizophrenia
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                                                                                                                                                                                                                                                                                                                                                                                 CHGSCSSSKGRCG
                                                                                                                                                                                                                                                                                                                                                                                                                 CTGSCRS--GKCG
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2001US-265888P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AA;
                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                       71
                                                                                                                                                                                                                                                                                           Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               83.1%;
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artier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              English
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 314; DB pred. No. 2.9e 5; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB 23;
2.9e-26;
hes 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 73;
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RESULT 15
ABB96675
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Best Local S
Matches 57
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antinflammatory, antimigraine, antidiabetic,
Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;
                            Omega-conopeptide Sm6.1 propeptide.
                                                                                           ABB96675,
                                                                                                                        ABB96675 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 1(c); Page 36; 195pp; English
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
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05-FEB-2001; 2001US-265888P
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                                                                                                                                                                                                                                                            CSGSCSNGRCG
                                                                                                                                                                                                                                   CTGSCRSGKCG
                                                                                                                                                                                                                                                                                                                             57;
                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                        71
                                                                                                                                                                                                                                                                                                                             Conservative
                                                           (first entry)
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                                                                                                                                                                                                                                                                                                                                          82.3%;
                                                                                                                        73 AA
                                                                                                                                                                                                                                                                                                                                        Score 311;
Pred. No. 5
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5.8e-26;
hes 9;
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                                                                                                                                                 Query Match
Best Local S
Matches 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                           Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1(c); Page 60; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-PSDB; ABL98934.
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05-FEB-2001;
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                                                                                                                                                                                                                                                                sequences
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                                    61
                                                                       CTGSCR--SGKCG 71
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CSGSCSGYTGRCG 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2002-257318/30.
                                                                                                                                                                     Similarity
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2001US-265888P
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Jones RM, C
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                                                                                                                                                                     81.0%;

    Watkins M,
Cartier GE;

                                                                                                                                                 5,
                                                                                                                                                                 Score 306; DB 23;
Pred. No. 2.1e-25;
                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Garrett JE,
                                                                                                                                                                                      Length 73,
                                                                                                                                               Gaps
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Search completed: May 20, 2003, 15:38:23
Job time: 78.6562 secs

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Result
No.
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Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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378
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1: /cgn2_6/ptodata/
2: /cgn2_6/ptodata/
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    GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.
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US-07-689-693B-3
US-08-624-133-13
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US-07-689-693B-29
US-07-689-693B-20
US-07-689-693B-16
US-08-716-308-17
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US-08-689-693B-7
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US-08-675-354-11
US-08-675-354-11
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US-08-613-400A-11
US-09-393-979A-11
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US-08-716-308-18
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US-08-716-308-18
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Query Match
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STATE:
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Sequence 14, Appl	Sequence 14, Appl	Sequence 14, Appl		Sequence 14, Appl			•	Sequence 12, Appl	-	-	•	•	-		Sequence 5, Appli	Sequence 10, Appl	Sequence 35, Appl

ALIGNMENTS

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Sequence 1, Application US/07689693B Patent No. 5231011 GENERAL INFORMATION:
                                                                                                                                                                                                              TELEPHONE: (801) 566-6;
TELEFAX: (801) 566-075;
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 71 amino acids
                                                                                                                                                                                                                                                                                                             ATTORNEY AGENT INFORMATION:
NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,788
REFERENCE/DOCKET NUMBER: 9925
TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
FRATURE:

NAME/KEY: Prepropeptide sequence for four-loop

NAME/KEY: MVIIB Omega conotoxin from Conus magus.

IDENTIFICATION METHOD: Libraries were created

TOENTIFICATION METHOD: using oilgo-dT primed pUC13 vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.5
COMPUTER: Compaq LTE/286
COMPUTER: DOS 4.01
OPERATING SYSTEM: DOS 4.01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Baldomero M. Olivera
TITLE OF INVENTION: Segregated Folding Determinants
TITLE OF INVENTION: for Small Disulfide-Rich Peptides
NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
                                                                                                                                           TYPE: AMINO ACID
TOPOLOGY: linear
MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: US/07/689,693B
FILING DATE: 1910418
CLASSIFICATION: 530
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                         (801) 566-0750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   David Hillyard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Thorpe, No. 5231011th & Western 35 South 700 East, Suite 200
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87.3%;

Score 330;

DB 1;

Length 71;

Best Local Similarity Matches 62; Conserv

Conservative

87.3%;

Pred. No. 6.2e-29; 2; Mismatches 7;

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Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: Segregated Folding Determinants TITLE OF INVENTION: for Small Disulfide-Rich Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Diskette,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION: NAME: Western, M. Wavne
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUNICATION INFORMATION: TELEPHONE: (801) 566-6633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
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SOFTWARE: Word Perfect 5.1
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                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: Prepropeptide sequence for four-loop NAME/KEY: GVIA Omega conotoxin from Conus geographus. IDENTIFICATION METHOD: Using oligo-dT primed puCl3 ventor of the control of the contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: FILING DATE: na
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICATION NUMBER: US FILING DATE: 19910418 CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: UZIP: 84070
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                                                                                                                                                               1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC 60
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                                                                 CIGSC 65
   CR-SC

    Application US/07689693B
    5231011

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                                                                                                                                                                                                                                                                Score 259.5; DB 1
Pred. No. 2.5e-21;
3; Mismatches 9
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                                            PCT-US96-05262-13
                                                            RESULT 4
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APPLICANT: Shon, Ki-J
APPLICANT: Grilley, M
APPLICANT: Olivera, B
TITLE OF INVENTION: C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 12, Application Patent No. 5739276
          Sequence 13, Applicat GENERAL INFORMATION:
                                                                                                                                                                                                                                         Matches
                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US 08/319
EILING DATE: 07-0CT-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/423
EILING DATE: 17-APR-1995
ATTORNEY/AGENT INFORMATION:
NAME: Thnen, Jeffrey L.
REGISTRATION NUMBER: 28,957
REGISTRATION NUMBER: 28,957
                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 202-962-8300 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                        TOPOLOGY: li
MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOTTWARE: PATENTIA Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSE: Venable, Baetjer, Howard & Civiletti
STREET: 1201 New York Avenue N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-962-4810
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 73 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
                                                                                                            61
                                                                                                                                            61
                                                                                                                                                                                                                                                          Local
                                                                                                                                           CTGSC 65
                                                                                                                                                                          MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALGSTŢELSLSTRCKSPGSSCSPTSYNC 60
                                                                                                                                                                                           MKLTCYVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTRCKGTGKPCSRIAYNC 60
                                                                                                            CR-SC
                                                                                                                                                                                                                                        l Similarity
52; Conserv
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                              Application PC/TUS9605262
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                                                                                                                                                                                                                                                                                                                                                       ESS: single
linear
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                                                                                                                                                                                                                                           Conservative
Shon, Ki-Joon
                                                                                                                                                                                                                                                                                                                       . protein
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Conotoxin Peptides
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                                                                                                                                                                                                                                                          68.7%;
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                                                                                                                                                                                                                                             Score 259.5; DB 1
Pred. No. 2.5e-21;
3; Mismatches 9
                                                                                                                                                                                                                                                                             DB 1;
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APPLICANT: APPLICANT: APPLICANT: APPLICANT:

Grilley, Michelle M. Olivera, Baldomero M.

Marsh, Maren Cruz, Lourdes J.

Yoshikami, Doju

David R.

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Best Local Similarity
                                                                                                                                                                                                                                                                      Sequence 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                         tent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TOPOLOGY: 11
MOLECULE TYPE:
HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NFORMATION FOR SEQ ID NO:
                                                                                                                     CORRESPONDENCE ADDRESS:
ADDRESSEE: Thorpe, N
STREET: 9035 South 7
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3
COMPUTER: Compaq LTE/286
OPERATING SYSTEM: DOS 4.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                        APPLICANT: David Hillyard
APPLICANT: Baldomero M. Olivera
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                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                 TITLE OF INVENTION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
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                                                             COUNTRY: Utah
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 73 amino acids
TYPE: amino acid
STRANDEDNESS: single
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REFERENCE/DOCKET NUMBER: 24
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                                                                                                                                                                                                                                                                                                                                              61 CR-SC 64
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY: UZIP: 20005
                                                                                                     CITY: Sandy
                                                                                                                                                                                                                                                                                                                                                                        61 CTGSC 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US 08/423,561 FILING DATE: 17-APR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
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                                                                                                                                                                                                                                                                                                                                                                                                   FELEPHONE:
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                                                                          USA
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linear
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                                                                                                                                                                              Segregated Folding Determinants for Small Disulfide-Rich Peptid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Conotoxin Peptides
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 DOS 4.01
                                                                                                                   No. 5231011th & Western
700 East, Suite 200
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                             3.5 inch, 720 Kb storage
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Pred. No. 2.5e-21;
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Best Local Similarity
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
SEQUENCE 45 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,788
REFERENCE/DOCKET NUMBER: 99
TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
                                                                                                                    CLASSIFICATION: 530 PRIOR APPLICATION NUMBER:
                                                                                                                                                                                                                                                                     COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette,
                                                                                                                                                                                                                                                                                                                         ADDAS.
STREET:
CITY: Sandy
CITY: Utah
US'
                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE ADDRESS:
ADDRESSEE: Thorpe, N
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TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
                                                                                                                                                                                                     CURRENT APPLICATION DATA:
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                                                                                   ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: Segregated Folding Determinants
TITLE OF INVENTION: for Small Disulfide-Rich Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MOLECULE TYPE:
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                                                                                                                                                                    APPLICATION NUMBER: US
FILING DATE: 19910418
                                                                                                                                                                                                                     COMPUTER: Compag LTE/286
OPERATING SYSTEM: DOS 4.01
SOFTWARE: Word Perfect 5.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: four-loop MVIIB Omega conotoxin IDENTIFICATION METHOD: Libraries were createntification method: using oligo-dT printiple.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MKLTCVVIVAVLLLTACQLITADDSRGTQKHRALRSDTKLSMSTR 45
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5. 5231011
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                                                                                                                                                                                                                                                                                                          84070
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                                                                                                                                                                                                                                                                                                                                                                      9035
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Baldomero M. Olivera
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                                                                                                                                                                                                                                                                                                                                                                      5231011th & Western East, Suite 200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 219; DB 1;
Pred. No. 3.4e-17
                                                                                                                                                                                                                                                                         inch,
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 45 amino acids
TYPE: AMINO ACID

20:

linear

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US-07-689-693B-20
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US-07-689-693B-5
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                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:

NAME: Western, M. Wayne
REGISTRATION NUMBER: 22,788
REFERENCE/DOCKET NUMBER: 9925
TELECOMMUNICATION INFORMATION:
TELEPHONE: (801) 566-6633
TELEPHONE: (801) 560-663
TELEFAX: (801) 560-0750
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER: COMPAG LIE/286
OPERATING SYSTEM: DOS 4.01
SOFTWARE: WORD PERFECT 5.11
CURRENT APPLICATION DATA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET: 9035
CITY: Sandy
STATE: Utah
                                                                                                                               FEATURE:
                                                                                                                                                  MOLECULE TYPE:
                            NAME/KEY:
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
IDENTIFICATION METHOD:
                                                                                                                                                      TOPOLOGY: 1 inc.
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                                                                                                                 NAME/KEY:
                 [DENTIFICATION
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                                                                                                               Prepropeptide sequence for four loop
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   3.5 inch, 720 Kb storage
                                 Library was constructed musing polya selected munna transcripts purified using polya selected munna transcripts purified from Conus textile venom duct tissue and cloned into the Okyama-Berg oligo-dT primed plasmid
                   pSV7186
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pred. No. 6.2e-15;
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                                                                                        Query Match
Best Local S
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                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 08/
FILING DATE: 07-CCT-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/
FILING DATE: 17-APR-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                      INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
ADDRESSEE: Venable, Baetjer, Howard & Civiletti
STREET: 1201 New York Avenue N.W.
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
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                                                                                                                                             MOLECULE TYPE: HYPOTHETICAL:
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                                                                                                                                                                                   TYPE: amino aci
                                                                                                                                                                                                                                                                                                                                                                                                                    CLASSIFICATION:
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 54 SRIAYNCCTGSC 65
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                                                1 MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTR-CKGTGKPC 53
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29; Conservative
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                                                                               Conservative
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17-APR-1995
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40.3%;
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; pred. No. 5.8e-08:
12; Mismatches 2
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Pred. No. 5.8e-08;
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                                                                                                                               Sequence 16, Application US/08716308 Patent No. 5885569 GENERAL INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                           Matches
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MEDIUM TYPE: Floppy disk
                                                          APPLICANT: Windass, John D.
TITLE OF INVENTION: Biological Insect Control Agent
NUMBER OF SEQUENCES: 18
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
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APPLICATION NUMBER: PCT/GB95/00677
FILING DATE: 27 MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9405951.6
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STREET: 1000
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME: Hohenschutz, Liza D.
REGISTRATION NUMBER: 33,712
REFERENCE/DOCKET NUMBER: PPD40027X/UST
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                                               ZENECA Inc.
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                                                                                                                                                                                                                                                                                                                                                                                    35.8%; Score 135.5; DB 2;
40.3%; Pred. No. 5.8e-08;
40.3%; Mismatches 24;
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Biological Insect Control Agent
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Matches
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                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: BM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy disk
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OPERATING SYSTEM:
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APPLICATION NUMBER: PCT/US96/05262 FILING DATE: 17-APR-1996
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Hillyard, David R.
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Olivera, Baldomero M.
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                                                                                                                                                                                                                                                                                                                                         Marsh, Maren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                           (oshikami, Doju
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MBER: GB 9405951.6
25-MAR-1994
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                                                                                                                                                                                                                                                                                      Conotoxin Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                35.8%; Score 135.5; DB 2
40.3%; Pred. No. 5.8e-08;
Live 12; Mismatches 24
                                                Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/08/716,308
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US-08-716-308-17
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SENERAL INFORMATION:
                        NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/GB95/006;
FILING DATE: 27-MAR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: GB 9405951.6
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
SEQUENCE CHARACTERISTICS:
                                                       TELECOMMUNICATION INFORMATION:
                                                                                                                          FILING DATE: 25-MAR-1994
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 NLLDQNCCDGYC 72
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 54 SRIAYNCCTGSC 65
                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CITY: Wilmington STATE: DE
                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/OFILING DATE: 24-SEP-1996
                                                                                                                                                                                                                                                            CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STREET:
                                                                                         NAME: Hohenschutz, Liza D. REGISTRATION NUMBER: 33,71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ADDRESSEE:
                                                                          REFERENCE/DOCKET NUMBER: PPD40027X/UST
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                                                                                                                                                                                                                                                                                                                                                                                                                          19850
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1800 Concord Pike
                                                                                                                                                                                                                                                                                                                                                                                                                                          USA
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                                                                                                                                                                                                                                                                                                                                                                                    Floppy disk
                                          886-1699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biological Insect Control Agent
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                                                                                                                                                                                                                                                                                              US/08/716,308
                                                                                                                                                                                                                         PCT/GB95/00677
                                                                                         33,712
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Matches Query Match Best Local

Similarity 39., 28; Conservative

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35.4%;

Score 134; DB 1; Length 77; Pred. No. 8.4e-08; O; Mismatches 27; Indels

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Gaps

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MOLECULE TYPE: US-08-716-308-17
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US-07-689-693B-7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence.7, Application US/07689693B Patent No. 5231011
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                                                                                                                                                                                            TELEFAX: (801) 566-07 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: David Hil
APPLICANT: Baldomerc
TITLE OF INVENTION:
TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                              SEQUENCE CHARACTERISTICS: LENGTH: 77 amino acids
                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                           CLASSIFICATION: 530 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                ATTORNEY/AGENT INFORMATION:
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Sandy
rtah
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                                                                                                                       MOLECULE TYPE:
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                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER: Compaq LTE/286
OPERATING SYSTEM: DOS 4.
                                                                                                                                                                                                                                                                     NAME: Western, M. Wayne REGISTRATION NUMBER: 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COUNTRY: UZIP: 84070
                                                                                                                                                                                                                                                                                                                                                                        FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                       REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: none
                                                                                                                                                                                                                          TELEPHONE:
                                             IDENTIFICATION
                                                                           NAME/KEY:
                                                                                                                                      POPOLOGY:
                               IDENTIFICATION METHOD:
                                                                                       NAME/KEY:
                                                          DENTIFICATION METHOD:
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   DENTIFICATION
                                                                                                                                              AMINO ACID
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                                                                                      Prepropeptide sequence for four loop
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                                                                                                                    peptide
 METHOD:
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                                                                                                                                                                                                                           566-6633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Segregated Folding Determinants for Small Disulfide-Rich Peptides 25
                                                                                                                                                                                                                                                                                                                                                                                                                                    DOS 4.01
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                                                                                                                                                                                               7:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  3.5 inch,
Library was constructed using polyA selected mRNA transcripts purified from Conus textile venom duct tissue and cloned into the Okyama-Berg oligo-dT primed plasmid pSV7186.
                                                                                                                                                                                                                                                           9925
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
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Query Match Best Local Matches

Match 35.8%; Score 135.5; DB 5; Local Similarity 40.3%; Pred. No. 5.8e-08; es 29; Conservative 12; Mismatches 24;

Indels Length

Gaps

2;

78;

1 MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTR-CKGTGKPC 53

MOLECULE TYPE: HYPOTHETICAL:

. protein

TOPOLOGY:

STRANDEDNESS:

SS: single linear

amino acid

TELEFAX: 202-962-8300 INFORMATION FOR SEQ ID NO:

14:

TELECOMMUNICATION INFORMATION: TELEPHONE: 202-962-4848

ATTORNEY/AGENT INFORMATION:

APPLICATION NUMBER: US 0 FILING DATE: 17-APR-1995

US 08/423,561

NAME: Saxe, Stephen A. REGISTRATION NUMBER: 38 REFERENCE/DOCKET NUMBER:

38,609

24260-107674

RIOR APPLICATION DATA:

SEQUENCE CHARACTERISTICS: LENGTH: 78 amino acids

78 amino acids

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RESULT 15
US-08-496-847-11
; Sequence 11, Application US/08496847
; Patent No. 5795864
; Patent No. 5795864
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                                                                                                                                                           Query Match
Best Local Similarity
Watches 20; Conserva
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US-08-049-794-11
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Patent No. 5587454
                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: (415) 324-090
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/
FILING DATE: 30-DEC-1991
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
                                                                                                                                                                                                                                                                        MOLECULE TYPE: protein HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: 5865-0009.30 TELECOMMUNICATION INFORMATION: TELEPHONE: (415) 324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION:
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                                                                                                                               4:6 CKGTGKPCSRIAYNCCTGSCRSGKCG 71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: 350 Canu
CITY: Palo Alto
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                                                                                                                                                                                                                                                                                                                                      TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER: FILING DATE: 199304
                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION:
                                                                                                            1 CKGAGAKCSRLMYDCCTGSCRSGKCG 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      94306
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 E: Law Offices of Peter Dehlinger 350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VALENTINO, KAREN L
MILJANICH, GEORGE P
MILJANICH, GEORGE OF PRODUCING ANALGESIA AND
VENTION: ENHANCING OPIATE ANALGESIA
VENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SINGH, TEJINDER GOHIL, KISHOR C
                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               JUSTICE, ALAN
                                                                                                                                                                                                                                                                                                                       linear
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                                                                                                                                                                                                                                                                                                                                                                                                     324-0960
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                                                                                                                                                                         2;
                                                                                                                                                                                        Score 128;
Pred. No. 1.
                                                                                                                                                                         Mismatches
                                                                                                                                                                                          DB 1;
..2e-07;
                                                                                                                                                                                                      Length 26;
                                                                                                                                                                         Indels
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Search completed: May 20, 2003, 15:42:41 Job time: 33.1042 secs
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                                                                                                                          Query Match
Best Local Similarity 76.9
Conservative
                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: 650-324-0960 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Amstutz, (
APPLICANT: Bowersox, APPLICANT: Gohil, Kis
APPLICANT: Adriaenss
APPLICANT: Kristipat
TITLE OF INVENTION: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY: US
ZIP: 94306-1546
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                TOPOLOGY: linear MOLECULE TYPE: protein HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
TECTOR //4/46.847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                      SEQUENCE CHARACTERISTICS:
LENGTH: 26 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                            TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ATTORNEY/AGENT INFORMATION:
                                                                     46 CKGTGKPCSRIAYNCCTGSCRSGKCG 71
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1 CKGAGAKCSRLMYDCCTGSCRSGKCG 26
                                                                                                                                                                                                                                                                                                                                                                                                                                               REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0009.31
                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: Stratford, Car
REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: US/08/496,847 FILING DATE: 27-JUN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET: 350 Camb
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                                                                                                                                                                                                                                                                                                                                                                                                            TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSEE: Dehlinger & Associates
STREET: 350 Cambridge Avenue, Suite 250
                                                                                                                                                                                                                                                                                                                  amino acid
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                                                                                                                                                                                                                                                                                                                                  26 amino acids
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Kristipati, Ramasharma
VENTION: METHODS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gohil, Kishorchandra
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bowersox, Stephen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Carol
                                                                                                                                                             33.98;
76.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FORMULATIONS FOR PREVENTING PROGRESSION OF NEUROPATHIC PAIN
                                                                                                                                           2
                                                                                                                                                           Score 128;
Pred. No. 1
                                                                                                                                           Mismatches
                                                                                                                                                             DB 1;
..2e-07;
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Title: Perfect score: Sequence:

US-09-910-082A-190 378

Scoring table:

BLOSUM62

Gapop 10.0 , Gapext 0

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protein

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protein search, using sw model

GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Total number of hits satisfying chosen parameters:

375593 segs, 99172665 residues

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

Published_Applications_AA:*

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Pred. No. is the number of results predicted by chance to have
score greater than or equal to the score of the result being
and is derived by analysis of the total score distribution.
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137.979 Million cell updates/sec
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: //cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US06_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US06_PUBCOMB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US07_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US08_PUBCOMB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US09_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US10_NEW_PUB.pep: *
: //cgn2_6/ptodata/1/pubpaa/US60_NEW_PUB.pep: *
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Sequence 408, App
Sequence 207, App
Sequence 294, Appl
Sequence 330, App
Sequence 330, Appl
Sequence 36, Appl
Sequence 37, Appl
Sequence 38, Appl
Sequence 33, Appl
Sequence 55, Appl
Sequence 30, Appl
Sequence 31, Appl
Sequence 116, Appl
Sequence 116, Appl
Sequence 264, Appl
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printed,
                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR EILING DATE: 2000-10-27
PRIOR PELICATION NUMBER: US 60/219,440
PRIOR PELING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR PELING DATE: 2000-06-26
PRIOR PELING DATE: 2000-06-26
PRIOR PELING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
SOFTWARE: PATENTIN VERSION 3.0
SEQ ID NO 408
LENGTH: 77
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US-09-749-637A-408
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; TYPE: PRT
; ORGANISM: Conus striolatus
US-09-749-637A-408
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 408, Application US/09749637A Patent No. US20020173449A1
                                                                                                                    Matches
                                                                                                                                   Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: University of Utah Research Foundation
APPLICANT: Cognetix, Inc.
APPLICANT: Olivera, Baldomero M.
APPLICANT: Cartler, G. Edward
APPLICANT: Watkins, Maren
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Hillyard, David R.
APPLICANT: McIntosh, J. Michael
APPLICANT: Layer, Richard T.
APPLICANT: Jones, Robert M.
TITLE OF INVENTION: O-Superfamily Conotoxin Peptides
FILE REFERENCE: 2314-227
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115.5
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67.7%;
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US-09-749-637A-120
US-09-749-637A-130
US-09-749-637A-130
US-09-749-637A-132
US-09-749-637A-132
US-09-749-637A-1330
US-09-749-637A-1330
US-09-749-637A-71
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US-09-749-637A-71
US-09-749-637A-71
US-09-749-637A-71
US-09-749-637A-71
US-09-749-637A-73
US-09-749-637A-74
                                                                                                                  Score 211.5; DB 9;
Pred. No. 1.5e-14;
3; Mismatches 17;
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                                                                                                                                                             Length
                                                                                                                        Indels
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Result No.

Score

Query Match

Length

SUMMARIES

10: 11: 12: 13: 14:

138.5 138.5 135.5 135.5 135.5 134 131

777 777 777 777 777 777 777 778 800 778 800 778 800 778

US-09-749-637A-408
US-09-749-637A-294
US-09-749-637A-394
US-09-749-637A-394
US-09-749-637A-39
US-09-749-637A-80
US-09-749-637A-264
US-09-749-637A-264

US-09-749-637A-207

Sequence 207, Application US/09749637A Patent No. US20020173449A1

B 8

61 C-GYC 64

CTGSC

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US-09-749-637A-48

: Sequence 48, Application US/09749637A

: Patent No. USS0020173449A1
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Best Local Similarity
Matches 36; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: University of Utah Research Foundation APPLICANT: Cognetix, Inc. APPLICANT: Olivera, Baldomero M.
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CURRENT FILING DATE: 2000-12-28
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PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
                                                                                                                                                                                                                              APPLICANT: University of Utah Research Foundation APPLICANT: Cognetix, Inc. APPLICANT: Olivera, Baldomero M.
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                                    CURRENT FILING DATE: 2000-12-28
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                                                                            TITLE OF INVENTION: O-Superfamily Conotoxin Peptides FILE REFERENCE: 2314-227
                                                                                                                    APPLICANT:
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PRIOR APPLICATION NUMBER: US 60/243,412 PRIOR FILING DATE: 2000-10-27
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                                                                                                                                                                                                                                                                                            INFORMATION
                                                                                                                                                      Watkins, Maren
Hillyard, David R.
McIntosh, J. Michael
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                                                                                                                Layer, Richard T. Jones, Robert M.
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48.6%; Pred. No. 1.3e-08;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 9;
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                                                                                                                                                                                                          ; TYPE: PRT ; ORGANISM: Conus marmoreus US-09-749-637A-294
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SOFTWARE: Pate
; SEQ ID NO 294
; SEQ TO NO 294
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Best Local :
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
                                                                                                                                         Matches
                                                                                                                                                                      Query Match
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                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/749,637A CURRENT FILING DATE: 2000-12-28 PRIOR APPLICATION NUMBER: US 60/243,412 PRIOR FILING DATE: 2000-10-27
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE:
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                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS:
                                                                                                                                                                                                                                                                                                                                 PRIOR FILING DATE:
                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION NUMBER: US 60/173,754
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Local Similarity 43.7%;
les 31; Conservative
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                                    55 RIAYNCCTGSC 65
                                                                                                                                                         Local Similarity
                                                                                                   1 MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTRCKGTGKPCS 54
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                                                                    MKLTCVVIVAVLFLTAWTFATADDPRNGLENLFSKAHHEMKNPEASKLNKRCPNTGELCD 60
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                                                                                                                                                                                                                                                                                               PatentIn version 3.0
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Cartier, G. Edward
Watkins, Maren
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cognetix,
                                                                                                                                       Conservative
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   71
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Pred. No. 4.7e-08;
                                                                                                                                                       Score 143; DB 9; Length 77; Pred. No. 1.2e-07;
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US-09-749-637A-330 ; Sequence 330, Application US/09749637A ; Patent No. US20020173449A1

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FILE REFERENCE: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR PELLING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR PELLING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1909-12-30
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US-09-749-637A-330
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PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
SOFTWARE: PALENTIN VERSION 3.0
SEQ ID NO 330
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Sequence 42, Application US/09749637A
Patent No. US20020173449A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL
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PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
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CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
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APPLICANT: Jones, Robert M.
TITLE OF INVENTION: O-Superfamily Conotoxin Peptides
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                                                                                                                                                                                                                                         TITLE OF INVENTION: O-Superfamily Conotoxin Peptides
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   y Match 37.8%;
Local Similarity 42.3%;
les 30; Conservative
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McIntosh, J. Michael
Layer, Richard T.
Jones, Robert M.
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Cartier, G. Edward
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Olivera, Baldomero M.
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Pred. No. 1.2e-07;
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; NUMBER OF SEQ ID NOS: 409
; SOFTWARE: PatentIn version 3.0
; SEQ ID NO 42
; LENGTH: 77
; TYPE: PRT
; ORGANISM: Conus gloriamaris
US-09-749-637A-42
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TITLE OF INVENTION: O-Superfamily Conotoxin Peptides
FILE REFERENCE: 2314-227
FILE REFERENCE: 7314-227
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SOFTWARE: PatentIn version 3.0
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TYPE: PRT
ORGANISM: Conus gloriamaris
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Olivera, Baldomero M
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Jones, Robert M.
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McIntosh, J. Michael
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RESULT 8
US-09-749-637A-86
; Sequence 86, Application US/09749637A
; Patent No. US20020173449A1
; GENERAL INFORMATION:

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US-09-749-637A-86
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                                                                                            FILE REFERENCE: 2314-227

CURRENT APPLICATION NUMBER: US/09/749,637A

CURRENT FILING DATE: 2000-12-28

PRIOR APPLICATION NUMBER: US 60/243,412

PRIOR PELICATION NUMBER: US 60/219,440

PRIOR FILING DATE: 2000-07-20

PRIOR FILING DATE: 2000-07-20

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR APPLICATION NUMBER: US 60/214,263

PRIOR FILING DATE: 2000-06-26

PRIOR FILING DATE: 2000-06-26

PRIOR FILING DATE: 1999-12-30

PRIOR FILING DATE: 1999-12-30
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SOFTWARE: PatentIn version 3.0
SEQ ID NO 86
LENGTH: 80
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          SOFTWARE: PatentIn version 3.0
SEQ ID NO 26
LENGTH: 78
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PRIOR FILING DATE: 1999-12-30
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                                                                              NUMBER OF SEQ ID NOS:
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TYPE: PRT
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McIntosh, J. Michael
Layer, Richard T.
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Olivera, Baldomero M.
Cartier, G. Edward
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; ORGANISM: Conus magus US-09-749-637A-26
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CURRENT FILING DATE: 2000-12-28
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR FILING DATE: 2000-06-26
PRIOR FILING DATE: 2000-06-26
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Best Local Similarity
Matches 30; Conserv
                                                                                                                                                  US-09-749-637A-65
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SEQ ID NO 33
LENGTH: 78
                                                                                        Patent No. US2002017
GENERAL INFORMATION:
                                                                                                          Sequence 65, Application US/09749637A Patent No. US20020173449A1
                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
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APPLICANT: University of Utah Research APPLICANT: Cognetix, Inc. APPLICANT: Olivera, Baldomero M. APPLICANT: Carther, G. Edward APPLICANT: Watkins, Maren
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                                                                                                                                                                                                                             61 NLLDQNCCEGYC 72
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                                                                                                                                                                                                                                                                                                                                     1 MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTR-CKGTGKPC 53
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McIntosh, J. Michael
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G. Edward
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Pred. No. 3.4e-07;
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FILE REFERENCE:

2314-227

LE OF INVENTION: O-Superfamily Conotoxin Peptides

Hillyard, David R

J. Michael

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; ORGANISM: Conus textile US-09-749-637A-22
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Best Local Similarity
                                                                                                                                 SOFTWARE: PA
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  Best Local Similarity
                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR FILING DATE: 2000--10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: O-Superfamily Conotoxin Peptides FILE REFERENCE: 2314-227 CURRENT APPLICATION NUMBER: US/09/749,637A CURRENT FILING DATE: 2000-12-28
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PRIOR FILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
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PRIOR FILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
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                                                                                                TYPE: PRT
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35.8%;
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Pred. No. 6.2e-07;
Score 135.5; DB 9; Pred. No. 6.8e-07;
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LENGTH: 78
TYPE: PRT
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PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR TILING DATE: 2000-10-27
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR APPLICATION NUMBER: US 60/173,754
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Best Local S
Matches 29
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EILE REFERENCE: 2314-22/
CURRENT APPLICATION NUMBER: US/09/749,637A
CONTRACT PILING DATE: 2000-12-28
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   TITLE OF
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INVENTION: O-Superfamily Conotoxin Peptides
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                                                                                        Olivera, Baldomero
Cartier, G. Edward
Watkins, Maren
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Cartier, G. Edward
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                                   Hillyard, David R.
McIntosh, J. Michael
Layer, Richard T.
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Pred. No. 6.8e-07;
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Mismatches
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FILE REFERENCE: 2314-227

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CURRENT FILLING DATE: 2000-12-20
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR APPLICATION NUMBER: US 60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR FILING DATE: 2000-07-20
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
SOFTWARE: Patentin version 3.0
SEQ ID NO 321
LENGTH: 76
TYPE: PRT
ORGANISM: Conus caracteristicus
US-09-749-637A-321
                                                                                                                                                                      CURRENT FILING DATE: 2000-12-20
PRIOR APPLICATION NUMBER: US 60/243,412
PRIOR APPLICATION NUMBER: US60/219,440
PRIOR FILING DATE: 2000-07-20
PRIOR FILING DATE: 2000-07-20
PRIOR FILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/214,263
PRIOR FILING DATE: 2000-06-26
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR APPLICATION NUMBER: US 60/173,754
PRIOR FILING DATE: 1999-12-30
NUMBER OF SEQ ID NOS: 409
SOFTWARE: PATENTIN VERSION 3.0
SEQ ID NO 83
LENGTH: 80
TYPE: PAT
ORGANISM: Conus pennaceus
US-09-749-637A-83
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US-09-749-637A-83
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Best Local Similarity 42.3%;
Matches 30; Conservative
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CURRENT FILING DATE: 2000-12-28
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                                                                                Query Match 35.4%; Score 134; DB 9; Length 80; Best Local Similarity 38.0%; Pred. No. 9.9e-07; Matches 27; Conservative 11; Mismatches 27; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILE REFERENCE: 2314-227
CURRENT APPLICATION NUMBER: US/09/749,637A
CURRENT FILING DATE: 2000-12-28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: Jones, Robert M.
RITLE OF INVENTION: O-Superfamily Conotoxin Peptides
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                                        1 MKLTCVVIVAVLLLTACQLITADDSRG-----TQKHRALRSDTKLSMSTRCKGTGKPCS 54
MKLTCVMLVAVLFLTAWTFATADDSSNGLENLFSKAHHEMKNPEASKLNKRCIPQFDPCD 60
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Olivera, Baldomero M.
Cartier, G. Edward
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McIntosh, J. Michael
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Layer, Richard T.
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Pred. No. 9.4e-07;
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Qy 밁 : : | | | | | 61 MVRHTCCKGLC 71 55 RIAYNCCTGSC 65

Search completed: May 20, Job time : 52.0312 secs 2003, 15:53:51

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Result
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Listing first 45 summaries
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Maximum DB seq length: 2000000000
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Perfect score:
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Gapop 10.0 , Gapext 0.5
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Match
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sp_vertebrate:*
sp_unclassified:*
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57.5	57.5	58	58	58.5	59	59	59	59.5	60	60	60	60	60.5	61	61	61	61.5	62.5	62.5	66	85	. 94	94	94	100	104	105	108
37.6	37.6	37.9	37.9	38.2	38.6	38.6	38.6	•	•	٠	٠	39.2	39.5	39.9	39.9	39.9	40.2	40.8	40.8	43.1	55.6	61.4	61.4	61.4	65.4	68.0	68.6	70.6
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ALIGNMENTS

PRESULT 1 OPNICV3 PRELIMINARY; PRT; 66 AA. AC OPNICV3; PRELIMINARY; PRT; 66 AA. AC OPNICV2; PRELIMINARY; PRT; 66 AA.																				_	_			
9NCV3 PRELIMINARY; PRT; 66 AA. 9NCV3; PRTEMBLTel. 15, Created) 1-OCT-2000 (TrEMBLTel. 15, Last sequence update) 1-OCT-2000 (TrEMBLTel. 21, Last sequence update) 1-UN-2002 (TrEMBLTel. 21, Last sequence update) 1-UN-2002 (TrEMBLTel. 21, Last annotation update) 1-UN-2002 (TrEMBLTEL 21, Last annotation update) 1-UN-2002 (TreMBLTell) 1-UN-2002 (TreMBLTe	RESUI Q9NCI ID AC	Фр	Que Bes Mai	SQ	FT	ᄝ	DR	R.	RT	RT.	R ?	RC :	RP R	R	28	8	SOS	DE	DT	DT	DT	AC E	T QUE	RESU
INARY; PRT; 66 AA. Lrel. 15, Created) Lrel. 21, Last sequence update) Liling (Fragment). S.R.; Solusca; Gastropoda; Caenogastropoda; Sincipal Conidae; Conus. S.R.; Sincipal Caenogastropoda; Sincipal Caenogastropod	LT 2 V2 Q9NCV2 Q9NCV2;		ato	SEQUENCE	NON_TER	InterPro; . Pfam; PF02	HSSP; P054	Submitted	eating Con	"Molecular	Duda T.F.,	STRAIN-CST	SEQUENCE FI	[1]	Neogastropo	Eukaryota;	Conus stri	Four-loop	01-JUN-200:	01-OCT-200	01-OCT-200	Q9NCV3;	DONCA3	ET 1
RT; 66 AA. ated) t sequence update) t annotation update) astropoda; Caenogastropoda; e; Conus. op conotoxin precursors from fish- L/GenBank/DDBJ databases. L/GenBank/DDBJ databases. B89B7AF1A7C7B3 CRC64; B89B7AF1A7C7B3 CRC64; ore 142; DB 5; Length 66; ed. No. 7.2e-14; Mismatches 2; Indels 0; Gaps 65	PRELIMINARY;	KPCSRIAYNCCTGSCR KPCSRIAYNCCTGSCR	vat		1	1PR004214; Conot 950; Conotoxin;	84; 1MVI.	(AUG-1999) to th	1S.";	evolution of fo	Palumbi S.R.;	RH 1 3;	ROM N.A.	0400,	oda; Conoidea; C	Metazoa; Mollus	atus (Striated c	conotoxin (Fragm	2 (TrEMBLrel. 21		(TrEMBLrel.		DOGI TMINADV.	
da; from fish- 66; 8 0; Gaps	PRT;		sc Pr 0;			OXIN.		e EMBL/GenB	1	ur-loop con					onidae; Con	ca; Gastrop	one).	ent).	, Last anno	, Last sequ		,	D D D D D D D D D D D D D D D D D D D	
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Matches 23; Conserv
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Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
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01-OCT-2000 (TrEMBLrel. 15, Last sequence up
01-JUN-2002 (TrEMBLrel. 21, Last annotation
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NON_TER
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Duda T.F., Palumbi S.R.;
"Molecular evolution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Submitted (AUG-1999) to the EMBL; AF174243; AAF89907.1; HSSP; P05484; 1MVI.
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O1-OCT-2000 (TrEMBLrel. 15,

O1-OCT-2000 (TrEMBLrel. 21,

O1-JUN-2002 (TrEMBLrel. 21,
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Q9N6N6;
Q9N6N6;
Q1-OCT-2000
Q1-OCT-2000
Q1-JUN-2002
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                                                                                                                                                                                                                                                                                                                                                                       Pfam; PF
NON_TER
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EMBL; AF174245; AAF89909.1; -.
HSSP; P05484; IMVI.
InterPro; IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRAIN=CSTRH_1_6;
Duda T.F., Palumbi S.R.;
"Molecular evolution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gast
Neogastropoda; Conoidea; Conidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         eating Conus.";
                                                                                                                                                                                                                                                                                                                                                      SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NCBI_TaxID=6493;
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(TrEMBLrel.
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Pred. No. 7
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        Last sequence update)
Last annotation update)
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                                                                                                                                                                                                                                                                                                               Length 66;
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RESULT
Q9NCV0
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Best Local S
Matches 22
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Best Local
                                                                                                                                                                  Matches
Q9NCVO PRELIMINARY;
Q9NCVO;
Q9NCVO;
C9NCVO;
C1-CT-2000 (TrEMBLrel. 15, Creat
C1-CT-2000 (TrEMBLrel. 15, Last
C1-UN-2002 (TrEMBLrel. 21, Last
FOUR-100P CONDOCAIN (Fragment).
Conus striatus (Striated cone).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Four-loop conotoxin precursor (Fragment)
Conus striatus (Striated cone)
Eukaryota; Metazoa; Mollusca; Gastropoda
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NON_TER
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases
EMBL; AF174244; AAF89908.1; -.
EMBL; AF174240; AAF89904.1; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              puda T.F., Palumbi S.R.;
"Molecular evolution of four-loop
                                                                                                                                                                                                                                                                                                                                                   Four-loop conotoxin (Fragment).
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
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                                                                                                                                                                                                                                                                                                                                                                                                       01-OCT-2000 (TrEMBLrel. 15,
01-OCT-2000 (TrEMBLrel. 15,
01-JUN-2002 (TrEMBLrel. 21,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                InterPro;
                                                                                                                                                                                                                                                      Submitted (AUG-1999) to the EMBL; AF174241; AAF89905.1; HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                                                    "Molecular evolution eating Conus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                          Q9NCV4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q9NCV4
                                                                                                                                                                                                                        Interpro; IPR004214; Conot pfam; pF02950; Conotoxin; NON_TER 1 1
                                                                                                                                                                                                                                                                                                                       STRAIN-CSTRH_1_2;
                                                                                                                                                                                                             SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          41 CKAAGKSCSRIAYNCCTGSCRSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 CKGTGKPCSRIAYNCCTGSCRSGKC
                                                                                                                       41
                                                                                                                                          1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PF02950; Conotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P05484;
                                                                                                                       CKAAGKSCSRIAYNCCTGSCRSGKC
                                                                                                                                                                  Similarity 88.0
22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity
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                                                                                                                                                                                                                                          IPR004214; Conotoxin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  66
                                                                                                                                                                                                             66 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
                     (TIEMBLIEL 15, Created)
(TIEMBLIEL 15, Last sequence update)
(TIEMBLIEL 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AA; 6966 MW;
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                                                                                                                                                                                                               6980 MW;
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88.0%;
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                                                                                                                                                                                                                                                                                                   four-loop conotoxin precursors
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
                                                                                                                                                                                                                                                                                                                                                                                                             Last sequence update)
Last annotation updat
                                                                                                                                                                                                                                                                              EMBL/GenBank/DDBJ databases
                                                                                                                                                                                                                                                                                                                                                                                                                                    Created)
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Pred. No. 1.1e-12;
0; Mismatches 3
                                                                                                                                                                   0;
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                                                                                                                                                                             Score 134;
Pred. No. 1.
                                                                                                                                                                                                               286F491D7CA7DA05 CRC64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                              Gastropoda;
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                                                                    PRT;
                                                                                                                         65
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1.1e-12;
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Best Local S
Matches 22
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Best Local S
Matches 22
                                                                                                                       O9N633 PRELIMINARY; PRT; 66 AA.
09N633; O1-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation updat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN=CSTRH_R_1;
Duda T.F., Palumbi S.R.;
"Molecular evolution of
eating Conus.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Four loop conotoxin (Fragment).
Conus striatus (Striated cone).
Eukaryota, Metazoa, Wollusca; Ge
Neogastropoda; Conoidea; Conidae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Q9NCU1;
01-OCT-2000 (TrEMBLrel.
01-OCT-2000 (TrEMBLrel.
01-JUN-2002 (TrEMBLrel.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Q9NCU1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eating Conus.";
Submitted (AUG-1999) to the
EMBL; AF174246; AAF89910.1;
HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro; IPR004214; Conot Pfam; PF02950; Conotoxin; NON_TER 1 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Submitted (AUG-1999) to the EMBL; AF174267; AAF89931.1; HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Duda T.F., Palumbi S.R.;
"Molecular evolution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-CSTRH_1_7;
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Neogastropoda; Conoidea; Conidae; Conus.
                                                                            Four-loop conotoxin Conus catus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Pfam; PF02950; Conotoxin; 1.
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NCBI_TaxID=6493;
                                                       Eukaryota; Metazoa; Mollusca;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                              1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
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22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Similarity 88.(
22; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IPR004214; Conotoxin.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66 AA; 6951 MW; 0D9868COA7A1A39F CRC64;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conoidea; Conidae;
                               Conoidea;
                                                                                                       precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         87.6%;
88.0%;
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21,
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                               Conidae;
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pred. Mismatche
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Last annotation update)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 134;
Pred. No. 1.
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                                                     Gastropoda;
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dae; Conus.
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                                                                                                       (Fragment).
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3;
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                                                     Caenogastropoda;
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                                                                                                                               update)
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Q9N628
ID V628

  RESULT
Q9N625
Q9N625
Q9N
AC Q9N
AC Q9N
DT 01
DT 01
DT 01
DT 01
CT 00
OC EU
OC Ne
OX NC
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Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local S
Matches 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           eating Conus.";
Submitted (AUG-1999) to the ENER; PAT174219; AAF89883.1; -
EMBL; AF174214; AAF89878.1; -
EMBL; AF174215; AAF89879.1; -
HSSP; P05484; IMVI.
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01-OCT-2000 (
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SEQUENCE FROM N.A.
SEQUENCE FROM N.A.
STRAIN-CCATH_11_6, CCATH_11_1, AND
Duda T.F., Palumbi S.R.;
Molecular evolution of four-loop
"Molecular evolution of four-loop
                                                                                                                                                                                                         Q9N625
Q9N625;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STRAIN-CCAFH_III_9, AND CCAFH_III_6;
Duda T.F., Palumbi S.R.;
Puda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors i eating Conus.";
Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF174229; AAF89893.1; -.
EMBL; AF174226; AAF89890.1; -.
EMBL; P05484; IMVI.
TELECOTOR TO THE CONTROL OF THE C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09N628;
01-0CT-2000 (TrEMBLrel. 15, Created)
01-0CT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Conus catus.
Eukaryota; Metazoa; Mollusca;
Neogastropoda; Conoidea; Conid
NCBI_TaxID=101291;
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     Neogastropoda; Con
NCBI_TaxID=101291;
                                                  Eukaryota; Metazoa;
                                                                               Conus catus.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Four-loop conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pfam;
                                                                                                       Four-loop conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               InterPro;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                17; Conservative
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17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IPR004214; Conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPR004214; Conotoxin
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                                                                                                                            (TrEMBLrel. 15, Created)
(TrEMBLrel. 15, Last sequence update)
(TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                    PRELIMINARY;
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                               Conoidea;
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                                                     Mollusca;
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68.0%;
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                               Conidae;
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                                                       Gastropoda; Caenogastropoda;
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EMBL; AF174221; AAR89885.1;
EMBL; AF174222; AAR89886.1;
EMBL; AF174222; AAR89888.1;
EMBL; AF174225; AAR89888.1;
HSSP; P05484; 1MVI.
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eating Conus.";
submitted (AUG-1999) to the
Submitted (AUG-1999) to the
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"Molecular evolution of four-loop conotoxin precursors from fish-
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SEQUENCE FROM N.A
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O9NCW6;
O1-OCT-2000 (TrEMBLrel. 15, Created)
O1-OCT-2000 (TrEMBLrel. 15, Last sequence update)
O1-JUN-2002 (TrEMBLrel. 21, Last annotation update)
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Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
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                                                                                          Q9NCW5;
01-OCT-2000
01-OCT-2000
01-JUN-2002
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Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors from
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Neogastropoda;
  Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
                                                 Conus catus
                                                                    Four-loop conotoxin
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pr02950; Conotoxin; 1.
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17; Conserv
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                                                                  (TremBLrel. 15, Created)
(TremBLrel. 15, Last sequence up
(TremBLrel. 21, Last annotation
onotoxin (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                    PRELIMINARY;
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Pred. No. 2e-09;
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Pred. No. 2e-09;
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SEQUENCE
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submitted (AUG-1999) to the
EMBL; AF174217; AAF89881.1;
HSSP; P05484; IMVI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     puda T.F., Palumbi S.R.;
"Molecular evolution of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NCBI_TaxID=101291;
[1]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-CCATH-1I_
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota; Metazoa; Mollusca; Gastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=101291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q9NCW3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ptam;
                                                                                             Q9NCW2;
Q9NCW2;
Q1-QCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (nterPro;
                                                                                                                                                                                                                                                                                                Submitted (AUG-1999) to the EMBL; AF174220; AAF89884.1; HSSP; P05484; 1MVI.
                                                                                                                                                                                                                                                                  Pfam; PF02950; Conotoxin; NON_TER 1
                                                                                                                                                                                                                                                                                                                                 eating Conus."
                                                                                                                                                                                                                                                                                                                                             Duda T.F., Palumbi S.
"Molecular evolution
                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A. STRAIN-CCATH_1I_7;
                                                                                                                                                                                                                                                                                                                                                                                                                             Conus catus.
                                                                                                                                                                                                                                                                                                                                                                                                                                          Four-loop conotoxin
                                                                                                                                                                                                                                                          SEQUENCE
                                                                       01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                41 CKGKGASCRRTSYDCCTGSCRSGRC
 SEQUENCE FROM N.A.
                   Neogastropoda; Conoidea; NCBI_TaxID=101291;
                                        Eukaryota; Metazoa; Mollusca;
                                                      Conus catus.
                                                                Four-loop conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
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                                                                                                                                                                                         1 CKGTGKPCSRIAYNCCTGSCRSGKC
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17; Conserv
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                                                                                                                                                                                                                                                            66 AA; 7054 MW;
                                                                                                                                                                                                                                                                                         IPR004214; Conotoxin.
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                                                                (Fragment).
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                                                                                                                                                                                                                                                                                                                                                four-loop conotoxin precursors from
                                   Conidae;
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Pred. No. 2e-0
3; Mismatches
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3; Mismatches
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                                   Gastropoda;
dae; Conus.
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                                               Caenogastropoda;
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RESULT 15
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Search completed: May 20, 2003, 15:40:52 Job time : 28.0833 secs
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                                                                                                  Query Match 72.5
Best Local Similarity 68.0
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 73.2
Best Local Similarity 68.0
Matches 17; Conservative
                                                                                                                                                   Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases.
EMBL; AF174218; AAF89882.1; -
HSSP; P05484; 1MVI.
InterPro; IPR004214; Conotoxin.
Pfam; PF02950; Conotoxin; 1.
NON_TER
1 1 1
SEQUENCE 66 AA; 6995 MW; E445338A6AA7A1AC CRC64
                                                                                                                                                                                                                                                                                                                                                                 Q9NCW4;
01-OCT-2000 (TrEMBLrel. 15, Created)
01-OCT-2000 (TrEMBLrel. 15, Last sequence update)
01-JUN-2002 (TrEMBLrel. 21, Last annotation update)
Four-loop conotoxin (Fragment).
                                                                                                                                                                                                                                                                                                                        Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda; Neogastropoda; Conoidea; Conidae; Conus. NCBI_TaxID-101291;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q9NCW4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Submitted (AUG-1999) to the EMBL/GenBank/DDBJ databases. EMBL; AF174223; AAF89887.1; -. HSSP; PO5484; LMCI. InterPro; IPR004214; Conotoxin.
                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
STRAIN-CCATH_11_5;
Duda T.F., Palumbi S.R.;
"Molecular evolution of four-loop conotoxin precursors from fish-
                                                                                                                                                                                                                                                                                                                                                                Conus catus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       eating Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Puda T.F., Palumbi S.R.;
*Molecular evolution of four-loop conotoxin precursors from fish-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STRAIN-CCATH_1II_3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
|| || || || :|:|||||||||:|
41 CKSTGASCRRTSYDCCTGSCRSGRC 65
                                                66 AA; 7026 MW; EA11339E382DB7DA CRC64;
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68.0%;
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; Pred. No. 2.8e-09;
u1=matches 6;
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GenCore version 5.1.4_p5_4578 Copyright (c) 1993 - 2003 Compugen Ltd.

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Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
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Perfect score:
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Maximum DB seq length: 2000000000
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121.829 Million cell updates/sec
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1 /SIDS2/gcgdata/geneseq/geneseqp-embl/AA1980.DAT:*

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Pred. No. is the number of results predicted by chance score greater than or equal to the score of the result and is derived by analysis of the total score distribut to have a being printed,

SUMMARIES

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142 142	144 144	152 152	153	153	153	153	Score
92.8 92.8	94.1 94.1	99.3	100.0	100.0	100.0	100.0	Query Match
25 71	25 71	71	71	71	25	25	Query Match Length DB
21 21	23 23	23	23	23	23	23	!
AAY87540 AAY87541	ABB96815 ABB96607	ABB96838 ABB96634	ABB96657	ABB96629	ABB96867	ABB96833	Ħ
Mature conotoxin p Conotoxin peptide	Omega-conopeptide Omega-conopeptide	Omega-conopeptide Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	Description

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AAB14368	AAB14360	57	58	AAW72623	AAW72615	86	\sim	AAW19558	UI	\sim	AAR39618	AAR37766	AAR37763	*	4	AAB14363	AAW95577	AAW72618	AAW12978	ABB96712	ABB96787	AAB97041	AAW19568	ABB96710	ABB96732	ABB96767	ABB96680	ABB96888	a	ABB96763	ABB96661	АВВ96870	ABB96609	ABB96817	
Omega-conopeptide	Ω		omega	genus	genus	conope	Omega conopeptide .	SNX-194, omega con	`	•	•	SNX-194. Syntheti	SNX-190. Syntheti	Omega conotoxin pe	Sequence of an ome	Omega-conopeptide	Ω		Omega conopeptide	Omega-conopeptide	Omega-conopeptide	Omega-conch toxin	SNX-273, omega con	Omega-conopeptide	Omega-conopeptide	•	•	Omega-conopeptide				Omega-conopeptide	Omega-conopeptide	Omega-conopeptide	

ALIGNMENTS

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Omega-conopeptide Cn6:2 toxin sequence.
                                                                        12-JUL-2002
                                                                              ABB96833;
                                                                                   ABB96833 standard; Peptide; 25
                                                                        (first entry)
                                                                                    ₽
Y
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Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinfiammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy, neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder psychosis; anxiety; schlzophrenia. epilepsy;

Conus consors.

WO200207675-A2

31-JAN-2002.

23-JUL-2001; 2001WO-US23041.

21-JUL-2000; 2000US-219616P 05-FEB-2001; 2001US-265888P

(UTAH) UNIV UTAH RES FOUND (COGN-) COGNETIX INC.

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RESULT 2
ABB96867
ID ABB9
XX ABB9
AC ABB9
XX ABB9
AC ABB9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           The invention relates to isolated omega-conopeptides, nucleic acid completed sequences. The activity of completed sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiant, neuroprotective, cerebroprotective, cardiant, neuroprotective, cerebroprotective, cerebroprotective, anticological completes, vulnerary, antipsychotic, anxiolytic and neuroleptic. Cerebrovascular, antipsychotic, anxiolytic and neuroleptic. Cerebrovascular may be used for treating or preventing disorders cassociated with voltage gated ion channels such as neurological cerebrovascular accident, brain or spinal chord trauma, drowning, cerebrovascular inflammation or cardiovascular disorders. They may also be used contracting psychiatric disorders e.g. psychosis, anxiety or cardiovascular disorders. They may also be used contracting psychiatric disorders e.g. psychosis, anxiety or cardiovascular disorders. They may also be used capents and toxicity, and are non-addictive. The sequences given in cardiovascular disorders e.g. psychosis, anxiety or records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1(a); Page 71; 195pp; English
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                                                                                                                                                                                                                                                                                                                                                              Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; neurolygic; antidiabetic; tranquiliser; vulnerary; antisyschotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; adrowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder psychosis; anxiety; schizophrenia.
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                                21-JUL-2000;
05-FEB-2001;
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                                   2000US-219616P.
2001US-265888P.
                                                                                                                          2001WO-US23041.
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м. Cartier (
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0;
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Pred. No. 1.
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.6e-10;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  e; epilepsy; ischaemia;
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Best Local S
Matches 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Olivera BM,
Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotectives.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1(a); Page 72; 195pp; English.
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                                                                                                                                                                                                         Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antinflammatory; neuroprotective; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
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                                                                                                                                                                                       psychosis; anxiety; schizophrenia.
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25; Conser
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Jones RM,
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Pred. No. 1.6e-10;
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Best Local S
Matches 25
                                                                                                                                                                                                                              Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy, neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     The invention relates to isolated omega-conopeptides, nucleic acid CC sequences encoding them, and propeptide sequences. The activity of CC the peptides of the invention may be described as, analgesic, cardinous. The activity of CC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cc tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. CC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. CC eptides of the invention act by modulating the activity of voltage gated con channels. They may be used for treating or preventing disorders cc associated with voltage gated ion channels such as neurological CC disorders, e.g. seizure (associated with epilepsy), neurotoxic injury CC associated with conditions of hypoxia, anoxia, ischaemia, stroke, CC cerebrovascular accident, brain or spinal chord trauma, drowning, CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. CC migraine; inflammation or cardiovascular disorders. They may also be used CC for treating psychiatric disorders e.g. psychosis, anxiety or cschizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in creating psychosis, analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local S
Matches 25
                                        neuroprotective; carebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; isohaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder: neurophical pain; psychosis: anviet.
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Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cardiovascular disorders
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05-FEB-2001;
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                                                                                                                                                                                                                                       Omega-conopeptide Cn6.7 toxin
                                                                                                                                                                                                                                                                                                                     ABB96838;
                                                                                                                                                                                                                                                                                                                                                            ABB96838 standard; Peptide; 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        sequences
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CKGTGKPCSRIAYNCCTGSCRSGKC
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                                                                                                                                                                                                                                                                              (first entry)
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2001US-265888P
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 153; DB 23;
Pred. No. 3.7e-10;
Mismatches 0;
                                                                                                                                                                                                                                       sequence
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RESULT 6
ABB96634
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   Query Match
Best Local
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 1(a); Page 71; 195pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
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              neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                            Omega-conopeptide Cn6.7 propeptide
                                                                                                                                                                                                               12-JUL-2002
                                                                                                                                                                                                                                                  ABB96634;
psychosis;
                                                                                                                                       Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;
                                                                                                                                                                                                                                                                                ABB96634 standard; Peptide; 71
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                                                                                                                                                                                                                                                                                                                                                                     CKGTGKPCSRIAYNCCTGSCRSGKC 25
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2001US-265888P
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                                                                                                                                                                                                                                                                                                                                                                                                                                            Conservative
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                                                                                                                                                                                                                 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ă,
       schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            99.3%;
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Cartier GE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 English
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 152;
Pred. No. 2
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                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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ABB96815
ID ABBS
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AC ABBS
AC ABBS
AC Omee
CX
XX
Omee
CX
KW Omee
KW neu
KW anx
KW anx
KW neui

ABB96815;

12-JUL-2002

(first entry)

Ay6.1 toxin

sequence.

ABB96815 standard;

Peptide;

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neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy

neurotoxic injury;

hypoxia; anoxia;

e; epilepsy; ischaemia;

neurological disorder;

Omega-conopeptide; analgesic; anticonvulsant; vasotropic;

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The invention relates to isolated omega-conopeptides, nucleic acid consequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analyesic, canticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, comparing an initial production and neuroleptic.

CC cardiovascular, antiinflammatory, antiinigraine, antidiabetic, cerebroprotective, cerebroprotective, cardiant, neuroprotective, cerebroprotective, cerebroprotective, cardiant, antiinflamatory, antiinigraine, antidiabetic, cerebroprotective, cerebroprotective, cerebroprotective, cerebroprotective, cardiant, antivity of voltage gated con channels. They may be used for treating or preventing disorders consociated with voltage gated ion channels such as neurological consociated with voltage gated ion channels such as neurological consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of h
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N-PSDB;
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(COGN-)
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Jacobsen R,
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05-FEB-2001; 2001US-265888P.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or cardiovascular disorders .
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      cardiovascular disorders
                                                                                                                                                                      Sequence
                                                                                                                                                                                                             sequences
  46
                                                                                                         Local
                      1 CKGTGKPCSRIAYNCCTGSCRSGKC
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CKGTGKPCSRVAYNCCTGSCRSGKC
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                                                                                                         Similarity
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Jones RM,
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                                                                                      Conservative
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                                                                                                           96.0%;
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rtier GE;
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                                                                                                             Score 152; DB 23; pred. No. 4.8e-10;
      70
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                                                                                             Mismatches
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ABB9G607
ID ABB9
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                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to isolated omega-conopeptides, nucleic acid consequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analyssic, cardiant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular, antiinflammatory, antimigraine, antidiabetic, concludes of the invention act by modulating the activity of voltage gated con channels. They may be used for treating or preventing disorders con channels. They may be used for treating or preventing disorders consociated with voltage gated ion channels such as neurological consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with conditions of hypoxia, anoxia, ischaemia, stroke, consociated with conditions of hypoxia, anoxia, ischaemia, drowning, consociated with encountered with e
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
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Best Local
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Jacobsen R,
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                                         Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Claim 1(a); Page 71; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
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05-FEB-2001;
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                                                                                          Omega-conopeptide Ay6.1 propeptide.
                                                                                                                                          12-JUL-2002
                                                                                                                                                                                         ABB96607;
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                                                                                                                                                                                                                                  ABB96607 standard;
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                     neuroprotective;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   records ABB96807-ABB96905 represent omega-conopeptide toxin sequences.
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                                                                                                                                                                                                                                                                                                                                                       CKGKGKPCSRISYNCCTGSCRSGKC
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2001US-265888P
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  antidiabetic;
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cerebroprotective; cardiovascular; antiinflammatory;
tidiabetic; tranquiliser; vulnerary; antipsychotic;
                                                                                                                                                                                                                                  Peptide;
                                                                                                                                        entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     94.1%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Watkins M,
artier GE;
                                                                                                                                                                                                                                     71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 144;
Pred. No. 1
                                                                                                                                                                                                                                                                                                                                                       25
                                                                                                                                                                                                                                                                                                                                                                                                   25
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 23;
.6e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 25;
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RESULT 9
AAY87540
ID . AAY8
XX
AC AAY8
XX
DT 18-J
XX
DE Matu

18-JUL-2000 AAY87540;

(first entry)

Mature conotoxin peptide #11.

AAY87540 standard;

peptide;

25

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Matches Query Match Best Local :

Similarity

Score 144; DB Pred. No. 3.7e 1; Mismatches

DB 23; 3.7e-09;

Length

0

Gaps

0

Conservative

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46 CKGKGKPCSRISYNCCTGSCRSGKC 1 CKGTGKPCSRIAYNCCTGSCRSGKC

70

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The invention relates to isolated omega-conopeptides, nucleic acid CC sequences encoding them, and propeptide sequences. The activity of CC the peptides of the invention may be described as, analyssic, cCC anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, CC cardiovascular, antiinflammatory, antingraine, antidabetic, cCC tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. CC peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders CC associated with voltage gated ion channels such as neurological CC associated with conditions of hypoxia, anoxia, ischaemia, stroke, CC associated with conditions of hypoxia, anoxia, ischaemia, stroke, CC cerebrovascular accident, brain or spinal chord trauma, drowning, CC suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. CC migraine; inflammation or cardiovascular disorders. They may also be used CC creating psychiatric disorders e.g. psychosis, anxiety or CC schizophrenia. The analgesic agents of the invention show diminished side effects and toxicity, and are non-addictive. The sequences given in CC records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Olivera BM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      anxiolytic; neuroleptic; voltage gated ion channel; seizure; epileps; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain migraine; inflammation; cardiovascular disorder; psychiatric disorder
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21-JUL-2000; 2000US-219616P
05-FEB-2001; 2001US-265888P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     psychosis; anxiety;
                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1(c); Page 28; 195pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cardiovascular disorders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23-JUL-2001; 2001WO-US23041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WO200207675-A2
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                                                                                                                             71 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mcintosh JM, Watki
Jones RM, Cartier
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     schizophrenia
94.1%;
92.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Watkins M,
irtier GE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               event; pain;
tric disorder;
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RESULT 10
AAX87541
ID AAX875
XX AAX87
AC AAX87
XX IB-JU
DT 18-JU
XX Conot
KW Conot
K
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Best Local S
Matches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Mature conotoxin; brocade cone shell; line cone shell; drug screening; neuronal inhibitor; muscle inhibitor; analgesic:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to 14 novel mature conotoxin peptides from marine snails (Conus species); conotoxin precursor proteins; and cDNAs encoding the conotoxin precursors. The mature peptide sequences were discovered by obtaining conotoxin cDNA sequences from mRNA from the brocade cone shell (Conus textile) or the line cone shell (Conus striatus). The cDNA sequences were used to determine the conotoxin precursor protein sequences, and the sequences of the mature conotoxin peptides were inferred from the precursor sequences. The mature conotoxin peptides can be obtained via chemical synthesis or by in vitro gene expression. Conotoxins inhibit the function of neurons and muscle gene expression. Conotoxins inhibit the function of neurons and muscle
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     gene expression. Conotoxins inhibit the function of neurons and muscle cells. Certain conotoxins interfere with synaptic transmission, while others act on muscle or at the neuromuscular junction. The 14 novel conotoxins have unique receptor specificity and affinity, so can be used as screening tools to identify new drugs. Conotoxin #11 (AAx87540, may be used for pain relief. Sequences AAY87420, AAY87522, AAY87524, may be AAY87528, AAY87530, AAY87532, AAY87534, AAY87536, AAY87540, AAY87542, AAY87544, AAY87544, AAY87544 and AAY87546 represent mature conotoxins
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Claim 1A;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conotoxin peptide from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Lu B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (BIOL-) BIOLOGICAL ENG INST ACAD MILITARY MEDICI
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                             18-JUL-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAY87541 standard; protein; 71
                                                                                                                                             Conus
                                                                                                                                                                                            Conotoxin precursor; neuronal inhibitor;
                                                                                                                                                                                                                                                                                  Conotoxin peptide #11 precursor.
                                                                                                                                                                                                                                                                                                                                                                                                  AAY87541;
                                                           Misc-difference
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   respectively.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Page 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                             (first entry)
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                                                                Location/Qualifiers
                                /note=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     20pp; Chinese.
                                                                                                                                                                                                     , brocade cone shell; line cone shell; drug screening; muscle inhibitor; analgesic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    92.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          brocade cone shells useful as
                                   "Encoded by ATG"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 142;
Pred. No. 2.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 21;
2.6e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
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RESULT 11
ABB96817
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Query Match
Best Local S
Matches 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               brocade cone shell (Conus textile) or the line cone shell (Conus striatus). The cDNA sequences were used to determine the conotoxin precursor protein sequences, and the sequences of the mature conotoxin peptides were inferred from the precursor sequences. The mature peptides were inferred from the precursor sequences. The mature conotoxin peptides can be obtained via chemical synthesis or by in vitro conotoxin peptides can be obtained via chemical synthesis or by in vitro conotoxin peptides can be obtained via chemical synthesis or by in vitro conotoxin conotoxins inhibit the function of neurons and muscle gene expression. Conotoxins inhibit the function. The 14 novel cells. Certain conotoxins interfere with synaptic transmission, while others act on muscle or at the neuromuscular junction. The 14 novel conotoxins have unique receptor specificity and affinity, so can be conotoxins have unique receptor specificity and affinity, so can be conotoxins have unique receptor specificity and affinity. Sequences axx87421, axx87523, axx87525, axx87525, axx87527, axx87529, axx87531, axx87533, axx8753
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 snails (Conus species); conotoxin precursor proteins; and cDNAs encoding the conotoxin precursors. The mature peptide sequences were discovered by obtaining conotoxin cDNA sequences from mRNA from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The invention relates to 14 novel mature conotoxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Claim 1A; Page 5-6; 20pp; Chinese
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Conotoxin peptide from brocade cone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Lu B, Huang
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           30-APR-1999;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              conotoxins
                                                                                                         omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antingraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder; psychosis; anxiety; schizophrenia.
                                                                                                                                                                                                                                                                                                                                              Omega-conopeptide Ay6.3 toxin sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABB96817 standard;
                                                                                                                                                                                                                                                                                                                                                                                               12-JUL-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                           ABB96817;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      46
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2000-351193/31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              l Similarity
23; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         71
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                                                                                                                                                                                                                                                                                                                                                                                               (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           respectively.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Peptide; 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         92.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
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Pred. No. 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                shells useful as analgesic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 21;
;.2e-09;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       peptides
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            71;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 from marine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0
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Conus aurisiacus

31-JAN-2002

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ABB96609
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Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                     Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy, neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analyssic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (UTAH )
(COGN-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New omega-conopeptides useful for treating disorders voltage gated ion channels e.g. pain, inflammation,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        21-JUL-2000;
05-FEB-2001;
                                                       psychosis; anxiety;
                                                                                                                                                                                                                                                   Omega-conopeptide Ay6.3 propeptide.
                                                                                                                                                                                                                                                                                              12-JUL-2002
                                                                                                                                                                                                                                                                                                                                   ABB96609
                                                                                                                                                                                                                                                                                                                                                                       ABB96609 standard; Peptide;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Claim 1(a); Page 71; 195pp;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-257318/30
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23-JUL-2001;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CKAKGKPCSRIAYNCCTGSCRSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UNIV UTAH RES FOUND COGNETIX INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 25 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2001WO-US23041
                                                                                                                                                                                                                                                                                            (first entry)
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2001US-265888P
                                                         schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92.2%;
92.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 141; DB 23;
Pred. No. 3.4e-09;
0; Mismatches 2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          disorders associated with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0;
                                                                                                                                                     epilepsy;
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Conus aurisiacus

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RESULT 13
ABB96870
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antlinflammatory, antimigraine, antidabetic, cardiovascular, antipsychotic, anxiolytic and neuroleptic. Tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic. Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological associated with conditions of hypoxia, anoxia, ischaemia, stroke, cerebrovascular accident, brain or spinal chord trauma, drowning, suffocation, perinatal asphyxia or hypoglycaemic events; pain e.g. suffocation; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders are a psychosis. anxiety or
                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local (
Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antimigraine; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; stroke; cerebrovascular accident; brain trauma; spinal chord trauma; drowning; suffocation; perinatal asphyxia; hypoglycaemic event; pain; migraine; inflammation; cardiovascular disorder; psychiatric disorder;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analyesic agents of the invention show diminished effects and toxicity, and are non-addictive. The sequences given in records ABB96595-ABB96697 represent omega-conopeptide propeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Claim 1(c); Page 29;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              21-JUL-2000;
05-FEB-2001;
                                                                                                                                                                                                                          ABB96870;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       cardiovascular disorders -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   New omega-conopeptides useful for treating disorders associated with voltage gated ion channels e.g. pain, inflammation, neurological or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       N-PSDB;
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                                                                                                                                                        Omega-conopeptide Mn6.1 toxin sequence.
                                                                                                                                                                                          12-JUL-2002
                                                                                                                                                                                                                                                              ABB96870 standard;
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                                                                                                                                                                                                                                                                                                                                                 46 CKAKGKPCSRIAYNCCTGSCRSGKC
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23; Conser
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2001US-265888P
                                                                                                                                                                                        (first entry)
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                                                                                                                                                                                                                                                              Peptide;
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92.0%;
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    Watkins M,
Cartier GE;

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                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 141;
Pred. No.
                                                                                                                                                                                                                                                                                                                                                 70
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                                                                                                                                                                                                                                                                                                                                                                                                                     Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                       8
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d.le-09;
2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                       71;
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                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                     epilepsy;
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used

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RESULT 14
ABB96661
ID ABB96
XX ABB5
AC ABB5
XX DT 12.
XX DE OT
XX XX
XX
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XX
XX
KW
KW
KW
KW
KW
KW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   The invention relates to isolated omega-conopeptides, nucleic acid consequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic, canticonvulsant, vasotropic, cardiant, neuroprotective, derebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, cardiovascular discreters associated with relating to the activity of voltage gated conchannels. They may be used for treating or preventing disorders (associated with conditions of hypoxia, anoxia, ischaemia, stroke, cassociated with conditions of hypoxia, anoxia, ischaemia, stroke, cassociated with conditions of hypoxia, anoxia, ischaemia, stroke, cassociated with accident, brain or spinal chord trauma, drowning, cardiovascular disorders. They may also be used migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or cassociated and toxicity, and are non-addictive. The sequences given in cardiovascular disorders anxiety or effects and toxicity, and are non-addictive. The sequences given in records. AbB96807-AbB96905 represent omega-conopeptide toxin sequences.
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(COGN-)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2002-257318/30
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Jacobsen R,
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05-FEB-2001;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 1(a); Page 72; 195pp; English.
   omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory; antingrahe; antidiabetic; tranquiliser; vulnerary; antipsychotic; anxiolytic; neuroleptic; voltage gated ion channel; seizure; epilepsy; neurological disorder; neurotoxic injury; hypoxia; anoxia; ischaemia; stroke; cerebrovascular accident; brain trauma; spinal chord trauma;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence
                                                                                                                                                                                                                                      ABB96661 standard; Peptide; 71
                                                                                                                                 Omega-conopeptide Mn6.1 propeptide
                                                                                                                                                                   12-JUL-2002
                                                                                                                                                                                                      ABB96661;
                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                            1 CKSTGKSCSRIAYNCCTGSCRSGKC
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2001US-265888P.
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                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                   (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           schizophrenia.
                                                                                                                                                                                                                                                                                                                                                                                                                        90.8%;
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artier GE;
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                                                                                                                                                                                                                                                                                                                                                                                                                         Score 139; DB 23; Pred. No. 5.7e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                              23;
                                                                                                                                                                                                                                                                                                                                                                                                              2;
                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 25;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         s associated with neurological or
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CC the peptides of the invention may be described as, nanlgesic, cardiovascular, antinfiammatory, antimigraine, antidiabetic, competities of the invention act by modulating the activity of voltage gated competities of the invention act by modulating the activity of voltage gated competities, and the conditions of properties of the invention activity of voltage gated competities, and in the pilepsy, neurological associated with voltage gated ion channels such as neurological competities, e.g. setzure (associated with epilepsy), neurotoxic injury competities, e.g. setzure (associated with epilep
  RESULT 15
ABB96763
ID ABB96
XX
AC ABB96
XY
DT 12-JU
XX
DE Omega
XX
KW Omega
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Best Local S
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05-FEB-2001;
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Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (UTAH ) UNIV UTAH RES FOUND (COGN-) COGNETIX INC.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                cardiovascular disorders
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequences
Omega-conopeptide; analgesic; anticonvulsant; vasotropic; cardiant; neuroprotective; cerebroprotective; cardiovascular; antiinflammatory;
                                                            Omega-conopeptide M6.1
                                                                                                                                                      ABB96763;
                                                                                                                                                                                            ABB96763 standard;
                                                                                                           12-JUL-2002
                                                                                                                                                                                                                                                                                                 46 CKSTGKSCSRIAYNCCTGSCRSGKC
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23; Conserv
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2001US-265888P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       71 AA;
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                                                                                                             (first entry)
                                                                                                                                                                                                   Peptide; 25
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                                                                          generic toxin sequence
                                                                                                                                                                                                                                                                                                                                                                                             0;
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pred. No. 1.3e-08;
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Query Match
Best Local Sin
Matches 23;
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                                                                                                                                                                                                                                                                                                                                                                                    anticonvulsant, vasotropic, cardiant, neuroprotective, cerebroprotective, cardiovascular, antiinflammatory, antimigraine, antidiabetic, tranquiliser, vulnerary, antipsychotic, anxiolytic and neuroleptic.

Peptides of the invention act by modulating the activity of voltage gated ion channels. They may be used for treating or preventing disorders associated with voltage gated ion channels such as neurological disorders, e.g. seizure (associated with epilepsy), neurotoxic injury associated with conditions of hypoxia, anoxia, ischaemia, stroke, suffocation, perinatal asphyxia or hypoylycaemic events; pain e.g. suffocation, perinatal asphyxia or hypoylycaemic events; pain e.g. migraine; inflammation or cardiovascular disorders. They may also be used for treating psychiatric disorders e.g. psychosis, anxiety or schizophrenia. The analgesic agents of threating show diminished side afforts and towarders are non-addition who segments after the invention show diminished side afforts and towarders.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The invention relates to isolated omega-conopeptides, nucleic acid sequences encoding them, and propeptide sequences. The activity of the peptides of the invention may be described as, analgesic,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2002-257318/30.
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Jacobsen R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21-JUL-2000; 2000US-219616P.
05-FEB-2001; 2001US-265888P.
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                                                                                                                                                                                                                                               Sequence
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                                                                                                                                                                                                                                                                                                                                   effects and toxicity, and are non-addictive. The sequences given in records ABB96698-ABB96806 represent omega-conopeptide generic toxin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (UTAH ) UNIV UTAH RES FOUND (COGN-) COGNETIX INC.
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                                CKGTGKPCSRIAYNCCTGSCRSGKC 25
CKGTGKXCSRIAXNCCTGSCRSGKC 25
                                                                                                                                                     Similarity
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                                                                                                                           Conservative
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Jones RM, Cartier GE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
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/note "OTHER is Pro
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                                                                                                                                                     92.0%;
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                                                                                                                    Score 136; DB 23;
Pred. No. 1.2e-08;
0; Mismatches 2;
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Search completed: May 20, 2003, 15:38:24 Job time: 28.3438 secs

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Result
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Listing first 45 summaries
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Perfect score:
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        Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
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seq length: 2000000000
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153
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1: pir1:*
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AC3461	T28155	A42587	S52477	S52920	A38739	E44007	S25111.	S39417	QRHULD	I38467	A33825	A25775	S05408	S70713	QRMSLD
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non-essential pilu	variant-specific s	thrombospondin 2 p	disintegrin (EC 3.	disintegrin (EC 3.	metallothionein -	aptotoxin III - tr	alpha-2-macroglobu	metallothionein 10	LDL receptor precu	low density lipopr	metallothionein A	metallothionein A	keratin, type II,	protein-tyrosine k	LDL receptor precu

ALIGNMENTS

Query Match 79.1%; Score 121; DB 2; Length 25; Best Local Similarity 76.0%; Pred. No. 2.6e-07;	experimental	A; Relevence number: A356.19; MULD: 9/V/0362; PMILD: 9913.00 A; Contents: annotation; conformation by (1)H-NNR R; Kohno, T.; Kim, J.I.; Kobayashi, K.; Kodera, Y.; Maeda, T.; Sato, K. submitted to the Brookhaven Protein Data Bank, April 1995 A; Reference number: A66296; PDB:10MG A; Contents: annotation; conformation by (1)H-NNR, residues 1-25 A; Contents: A67266; PDB:10MG A; Contents: A67266; A7266; A72667; A72	R.Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J. submitted to the Brookhaven Protein Data Bank, August 1996 A; Reference number: A67648; PDB:IMVI A; Contents: annotation; conformation by (1)H-NMR, residues 1-25 R; Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik, D.J. J. Mol. Biol. 263, 297-310, 1996 A; Title: A consensus structure for omega-conotoxins with different selectivities for	A; life: replace neurocoxins from finding code shalls. A; Reference number: A43620; MUID:86070213; PMID:4071055 A; Accession: C60133 A; Molecule type: protein A; Residues: 1-25 <oli> A; Criz, L.J.; de Santos, V.; LeCheminant, G.W.; Griffin, D.; Zeikus, R. Biochemistry 26, 2086-2090, 1987 Biochemistry 26, 2086-2090, 1987 A; Title: Neuronal calcium channel antagonists. Discrimination between calcium channel A; Reference number: A34115; MUID:87299637; PMID:2441741 A; Contents: appoint in the contents of the contents</oli></oli></oli></oli></oli></oli></oli>	A; Title: A new conus peptide ligand for mammalian presynaptic Ca2+ channels. A; Reference number: JH0699; MUID:92337922; PMID:1352986 A; Accession: JH0700 A; Status: nucleic acid sequence not shown A; Molecule type: mRNA A; Residues: 1-25 < HIL> R; Olivera, B. M; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.; de Sa Science 230, 1338-1343, 1985 Science 230, 1338-1343, 1985	RESULT 1 JH0700 omega-conotoxin MVIIA [validated] - cone shell (Conus magus) C;Species: Conus magus (magus cone) C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 15-Sep-2000 C;Accession: JH0700; C60133; A34115 R;Hillyard, D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, L.; Ramachandran, J

Matches

19;

Conservative

2;

Mismatches

4.

Indels

0

Gaps

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C;Species: Conus magus (magus cone)
C;Date: 17-Apr-1993 #sequence_revision 17-Apr-1993 #text_change 23-May-1997
C;Accession: JH0701; B34115
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A;Title: Neuronal calcium channel antagonists. Discrimination between calcium channel su A;Reference number: A34115; MUID:87299637; PMID:2441741
A;Accession: B34115
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A;Title: A new conus peptide ligand for mammalian presynaptic
A;Reference number: JH0699; MUID:92337922; PMID:1352986
A;Recession: JH0701
A;Status: nucleic acid sequence not shown
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A; Residues: 1-25 <OLI>
C; Superfamily: omega-conotoxin
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A; Contents: a
C; Superfamil:
C; Keywords: a
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R; Farr-Jones, S.; Basus, V.J.
R; Farr-Jones, S.; Basus, V.J.
submitted to the Brookhaven Protein Data Bank, December 1994
submitted to the Brookhaven Pythin Data Bank, December 1994
A; Reference number: A66297; PDB:10MN
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
A; Contents: annotation; Conformation by (1) H.NMR, residues 3-28
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A; Contents: Annotation by (1) H.NMR, residues 3-28
A; Conte
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                                                                                                         R:Farr-Jones, S.; Miljanich, G.P.; Nadasdi, L.; Ramachan J. Mol. Biol. 248, 106-124, 1995
A;Title: Solution structure of omega-conotoxin MVIIC, a A;Reference number: A58582; MUID:95248539; PMID:7731037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Reference number: PC2380;
A; Accession: PC2380
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A; Residues: 1-29 <HIL>
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      , D.R.; Monje, V.D.; Mintz, I.M.; Bean, B.P.; Nadasdi, 59-77, 1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
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            release inhibition; amidated carboxyl end;
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..6e-05;
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F;3-28/Product: omega-conotoxin MVIIC #status experimental <MAT>
F;3-18,10-22,17-28/Disulfide bonds: #status experimental
F;28/Modified site: amidated carboxyl end (Cys) (amide in mature
                                                                                                                                                                                                          A;Cross-references: GB:S69322; NID:g545399; PIDN:AAB29902.1; PID:g545400 A;Note: the predicted peptide was chemically synthesized and alternative C;Superfamily: omega-conotoxin
                                                                                                                                                                                                                                                                                                                         R;Monje, V.D.; Haack, J.A.; Naisbitt, S.R.; Miljanich, G.; Ramachandran, Neuropharmacology 32, 1141-1149, 1993
A;Title: A new Conus peptide ligand for Ca channel subtypes.
A;Reference number: A58537; MUID:94150815; PMID:8107968
                                                                                                                                                                                                                                                                                                                                                                                                          C;Species: Conus magus (magus cone)
C;Date: 27-Mar-1997 #sequence_revision 11-Apr-1997 #text_change 16-Jul-1999
C;Accession: A58537
                                                                                                                                                                                                                                                                                                                                                                                                                                             omega-conotoxin MVIID precursor - cone shell (Conus magus) (fragment)
C; Species: Conus magus (magus cone)
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A; Residues: 1-29 <MON>
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Best Local
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                                                                                                                     score 94;
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C;Species: Conus striatus (striated cone)
C;Date: 31-Dec-1993 *sequence_revision 31-Dec-1993 *text_change 15-Sep-2000
C;Accession: C44379
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      R;Ramilo, C.A.; Zafaralla, G.C.; Nadasdi, Biochemistry 31, 9919-9926, 1992
A;Title: Novel alpha- and omega-conotoxins
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                                                                                                                                                     A;Title: A consensus structure for omega-conotoxins with A;Reference number: A58619; MUID:97070382; PMID:8913308 A;Contents: annotation; conformation by (1)H-NMR
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A; Reference number: A67649; PDB:1MVJ
A; Contents: annotation; conformation by (1)H-NMR, residues 1-26
R; Nielsen, K.J.; Thomas, L.; Lewis, R.J.; Alewood, P.F.; Craik,
J. Mol. Biol. 263, 297-310, 1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Experimental source: venom
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C; Keywords: a cetylcholine release inhibition; amidated carboxyl end; F;1-16,8-20,15-26/Disulfide bonds: *status predicted F;26/Modified site: amidated carboxyl end (Cys) *status experimental
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A; Residues: 1-26 < RAM>
                                                                                                                        C; Comment: This omega-conotoxin blocks presynaptic
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                                                                                          C; Superfamily: omega-conotoxin
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variant-specific surface protein 2 - malaria parasite (Plasmodium falciparum) C;Species: Plasmodium falciparum C;Date: 15-Oct-1999 #sequence_revision 15-Oct-1999 #text_change 09-Jun-2000 C;Accession: T28626 R;Su, X.Z.; Heatwole, V.M.; Werthelmer, S.P.: Gninet F · ucrefold:
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C;Species: Conus geographus (geography cone)
C;Date: 11-Dec-1992 #sequence_revision 11-Dec-1992 #text_change 23-May-1997
C;Accession: B43620
R;Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.; de Santc Science 230, 1338-1343, 1985
A;Reference neurotoxins from fish-hunting cone snails.
A;Reference number: A43620; MUID:86070213; PMID:4071055
A;Accession: B43620
A;Molecule type: protein
A;Residues: 1-29 <OLI>C;Superfamily: omega-conotoxin
C;Keywords: acetylcholine release inhibition; calcium channel inhibitor; hydroxyproline; F;1-16,8-19,15-26/Disulfide bonds: #status predicted
F;4.7/Modified site: 4-hydroxyproline (Pro) #status experimental
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A;Title: Peptide neurotoxins from fish-hunting cone snails.
A;Reference number: A43620; MUID:86070213; PMID:4071055
A;Accession: A43620
A;Mclecule type: protein
A;Residues: 1-29 <OLI>C;Superfamily: omega-conotoxin
C;Keywords: acetylcholine release inhibition; calcium channel inhibitor; F;1-16,8-19,15-26/Disulfide bonds: #status predicted
F;4,7/Modified site: 4-hydroxyproline (Pro) #status experimental
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C;Species: Conus geographus (geography cone)
C;Date: 11-Dec-1992 #sequence_revision 11-Dec-1992 #text_change 23-May-1997
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Pred.
                                                                                                                                                                                                                                                                                           Score 67.5; DB Pred. No. 0.26;
                                                                                                                                                                                                                                                                          Pred. No. 0.2
L; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 67.5;
Pred. No. 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
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No. 0
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00087;
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  Herrfeldt, J.A.; Peterson,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            J.; Rivier,
                                                                                                                                                                                                                                                                       ω
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Cell 82, 89-100, 1995
A;Title: The large gene family var encodes proteins
A;Reference number: Z20487; MUID:95330813; PMID:7606788
A;Accession: T28626
                                                                                                                                                      A; Molecule type:
A; Residues: 1-26
                                                                                                     A; Note: var-2
                                                                                                                  A; Introns:
                                                                                                                                           A; Cross-references:
                                                                                                                                                                              A; Status: preliminary; translated
                                                                                                                             Genetics:
                                                                          Query Match
                                                   Matches
 1805
                                                              Local
                         6 KPCSRIAYNCCTGSCRSG-----KC
                                                                                                                 2197/3
                                                   13;
                                                               Similarity
                                                                                                                                                                   DNA
                                                   Conservative
                                                                                                                                                        <XUX>
                                                                                                                                           EMBL: L40609;
                                                               43.18;
                                                                                                                                         NID: 9886376; PID: 9886378;
                                                              Score 66;
Pred. No.
                                                1;
                                                                                                                                                                               from GB/EMBL/DDBJ
                                                  Mismatches
1830
                         25
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                                                                          Length 2664
                                                                                                                                           PIDN: AAA75398.1
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                                                  6,
                                                  Gaps
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NTKN6G

Omega-conotoxin GVIB precursor [validated] - cone shell (Conus geographus)

N;Alternate names: shaker peptide GVIB
N;Contains: Omega-conotoxin GVIA; Omega-conotoxin GVIC
C;Species: Conus geographus (geography cone)
C;Date: 25-Feb-1985 #sequence_revision 23-Mar-1995 #text_change 15-Sep-2000
C;Accession: A44006; A6013; B60133; A01785
R;Colledge, C.J.; Hunsperger, J.P.; Imperial, J.S.; Hillyard, D.R.
Toxicon 30, 111-1116, 1992
R;Title: Precursor structure of omega-conotoxin GVIA determined from a cDNA clone.
A;Reference number: A44006; MUID:93069266; PMID:1440648
A;Recession: A44006
A;Molecule type: mRNA
A;Residues: 1-73 <COL>
A;Rolecule type: mRNA
A;Residues: 1-73 <COL>
A;Rollecule type: mRNA
A;Residues: 1-73 <COL>
A;Residues: 1-74 <COL>
A;Residues: 1-75 <COL>
A;Residue

A; Residues: 1-73 <COL>
A; Residues: 1-73 <COL>
A; Cross-references: GB:M84612; NID:g156520; PIDN:AAA81590.1; PID:g1070393
A; Experimental source: venom duct
A; Note: sequence extracted from NCBI backbone (NCBIN:119531, NCBIP:119532)
R; Olivera, B.M.; Gray, W.R.; Zeikus, R.; McIntosh, J.M.; Varga, J.; Rivier, J.
Science 230, 1338-1343, 1985
A; Title: Peptide neurotoxins from fish-hunting cone snails.
A; Reference number: A43620; MUID:86070213; PMID:4071055
A; Accession: A60133
A; Molecule type: protein
A; Residues: 46-73 <OLI>
A; Residues: 46-71 <OL2>
R; Residues: 46-71 <OL2>

Sa

A;Residues. A: MCIntosh, J.M.; Cruz, L.J.; Luque, r.A.; way, m.m.

Biochemistry 23, 5087-5090, 1984

A;Title: Purification and sequence of a presynaptic peptide toxin from Conus geograph A;Reference number: A01785; MUID:85072796; PMID:6509012

A;Accession: A01785

A;Molecule type: protein
A;Residues: 46-72 <0L3>

R;Nishiuchi, Y.; Kumagaye, K.; Noda, Y.; Watanabe, T.X.; Sakakibara, S. Biopolymers 25, S61-568, 1986
A;Title: Synthesis and secondary-structure determination of omega-conotoxin GVIA: A;Reference number: A49017; MUID:87049928; PMID:3779030
A;Contents: annotation

B

N

A; Contest is annotation A; Contest is annotation A; Note: disulfide bonds determined and confirmed by chemical synthesis R;Davis, J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; Ramachandran, J.; Basus, submitted to the Brookhaven Protein Data Bank, April 1993
A; Reference number: A51894; PDB: LOMC

A; reterence number: A31094; PDB: LOWC A; Contents: annotation; conformation by (1)H-NMR, residues 46-72 R; Davis, J.H.; Bradley, E.K.; Miljanich, G.P.; Nadasdi, L.; Ramachandran, J.; Biochemistry 32, 7396-7405, 1993 A; Title: Solution structure of omega-conotoxin GVIA using 2-D NMR spectroscopy

Basus,

re

A;Title: Solution structure of omega-conotoxin GVIA using 2-D NMR spectroscopy A;Reference number: A58536; MUID:93332945; PMID:8338837 A;Contents: annotation; conformation by (1)H-NMR R;Pallaghy, P.K.; Duggan, B.M.; Pennington, M.W.; Norton, R.S. submitted to the Brookhaven Protein Data Bank, August 1993

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F;148-183/Domain: LDL receptor ligand-binding repeat homolo (195-229/Domain: LDL receptor ligand-binding repeat homolo (234-268/Domain: LDL receptor Ligand-binding repeat homolo (235-268/Domain: LDL receptor LATE (235-268/Do
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C; Keywords: acetylcholine release inhibition; amidated carboxyl end; C; Keywords: acetylcholine release inhibition; amidated carboxyl end; F;1-22/Domain: signal sequence #status predicted <PRO>F;3-45/Domain: propeptide #status predicted cPRO>F;46-73/Product: omega-conotoxin GVIB #status experimental <MAT2>F;46-73/Product: omega-conotoxin GVIB #status experimental <MAT2>F;46-71/Product: omega-conotoxin GVIC #status experimental F;46-61,53-64,60-71/Disulfide bonds: #status experimental F;49,55,66/Modified site: a-hydroxyproline (Pro) #status experimental F;49,55,66/Modified site: amidated carboxyl end (Tyr) (amide in mature form
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A;Reference number: A51089; PDB:1CCO
A;Contents: annotation; conformation by (1)H-NMR, residues 46-72
C;Comment: There are several types of conotoxins: alpha, acting on postsynaptic membrane
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LDL receptor 1 precursor - African clawed frog

c;Species: Xenopus laevis (African clawed frog)

c;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 18-Sep-1998

c;Accession: A40388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   R;Mehta, K.D.; Chen, W.J.; Goldstein, J.L.; Brown, M.S.
J; Biol. Chem. 266, 10406-10414, 1991
A;Title: The low density lipoprotein receptor in Xenopus
A;Reference number: A40388; MUID:91244815; PMID:1709931
A;Accession: A40388
A;Mccession: A40388
A;Mccession: A40388
A;Residues: 1:909 <MEH)
A;Residues: 1:909 <MEH)
A;Cross-references: GB:M62976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   F;1-21/Domain: signal sequence *status predicted <MATY
F;22-909/Product: LDL receptor *status predicted <MATY
F;22-836/Domain: extracellular *status predicted <EXTY
F;27-63/Domain: LDL receptor ligand-binding repeat homology <LDL1>
F;37-63/Domain: LDL receptor ligand-binding repeat homology <LDL2>
F;109-143/Domain: LDL receptor ligand-binding repeat homology <LDL2>
F;109-143/Domain: LDL receptor ligand-binding repeat homology <LDL4>
F;148-183/Domain: LDL receptor ligand-binding repeat homology <LDL5>
F;134-258/Domain: LDL receptor ligand-binding repeat homology <LDL5>
F;274-311/Domain: LDL receptor ligand-binding repeat homology <LDL7>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                c;Comment: This transmembrane glycoprotein binds LDL, the major cholesterol-carrying lip nd complexes must first cluster into clathrin-coated pits.
c;Superfamily: LDL receptor; EGF homology; LDL receptor ligand-binding repeat homology; C;Keywords: cholesterol; coated pits; duplication; endocytosis; glycoprotein; LDL; lipid
                                                                                                                                                           F;886-898/Region: basolateral targeting signal F;97,270,459/Binding site: carbohydrate (Asn) (covalent) #status predicted F;316-327,323-336,338-350,356-366,362-375,377-390,665-679,675-694,696-709/Disulfide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
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                                                  40.2%;
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Pred. No. 2
                5
                                                      Pred.
                                                                                        Score 61.5;
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                Mismatches
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                                                                                                Length 909;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             submitted to the EMBL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R; Badcock,
F;39-55/Domain: transmembrane #status predicted <TM1>F;123-139/Domain: transmembrane #status predicted <TM:
                                                                       C; Keywords: transmembrane protein
                                                                                                                 A; Map position: 16R
C; Superfamily: Saccharomyces cerevisiae
                                                                                                                                                                                                A; Cross-references:
                                                                                                                                                                                                                                      A; Gene: MIPS: YPR064w
                                                                                                                                                                                                                                                                                C; Genetics:
                                                                                                                                                                                                                                                                                                                  A; Experimental source:
                                                                                                                                                                                                                                                                                                                                                                A; Cross-references: EMBL: Z49219;
                                                                                                                                                                                                                                                                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-139 <BAD>
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SGD:S0006268

probable

membrane

protein YPR064w

strain

19; NID:g805025; PID:g805044; GSPDB:GN00016; MIPS:YPR064 AB972

May 1995

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A;Recession: A30103
A;Rocession: A30103
A;Reciduse: 52-78 < KHIL-
R;Fainzilber, M.; Gordon, D.; Hasson, A.; Spira, M.E.; Zlotk R;Fainzilber, M.; Gordon, D.; Hasson, A.; Spira, M.E.; Zlotk R;Fainzilber, M.; Gordon, D.; Hasson, A.; Spira, M.E.; Zlotk R;Fainzilber, M.; Gordon, D.; Hasson, A.; Spira, M.E.; Zlotk R;Fainzilber, M.; Gordon, D.; Hasson, A.; Spira, M.; Zlothen. 202, 589-595, 1991
A;Reference number: S19553; MUID:92104183; PMID:1761058
A;Recession: S19553; MUID:92104183; PMID:1761058
A;Recession: S19553; MUID:92104183; PMID:1761058
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A; Residues: 1-78 < WOO>
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C;Superfamily: omega-conotoxin
c;Keywords: neurotoxin; sodium channel inhibitor; venom
C;Keywords: neurotoxin; sodium channel inhibitor; venom
C;Keywords: neurotoxin; sodium predicted <SIG>
F;1-22/Domain: signal sequence #status predicted <PRO>
F;23-51/Domain: propeptide #status predicted
F;53-68/Product: delta-conotoxin TxVIA #status experimental
F;53-68,60-72,67-77/Disulfide bonds: #status predicted
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                                                                                                                  A; Molecule type: protein
A; Residues: 52-78 <FAI>
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Best Local S
Matches
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9; Conservat
                                                                                      Churcher, C
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BL Data Library,
S54059
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Pred. No.
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2.6;
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delta-conotoxin TxIB - cone shell (Conus textile)
C;Species: Conus textile (cloth-of-gold cone)
C;Date: 19-Mar-1997 #sequence_revision 11-Apr-1997 #text_change 16-Jul-1999
C;Accession: S19619
R;Fainzilber, M; Gordon, D; Hasson, A.; Spira, M.E.; Zlotkin, E.
Eur. J. Blochem. 202, 589-595, 1991
A;Title: Mollusc-specific toxins from the venom of Conus textile neovicarius.
A;Reference number: S1953; MUID:92104183; PMID:1761058
A;Accession: S19619
A;Molecule type: protein
A;Residues: 1-27 <FAl>
C;Superfamily: omega-conotoxin
C;Keywords: neurotoxin; sodium channel inhibitor; venom
C;Keywords: neurotoxin; sodium channel inhibitor; venom
F;2-17,9-21,16-26/Disulfide bonds: #status predicted
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Biochemistry 31, 9919-9926, 1992

A:Title: Novel alpha- and omega-conotoxins from Conus striatus venom.

A:Reference number: A44379; MUID:93003172; PMID:1390774

A:Accession: B44379

A:Accession: B44379

A:Molecule type: protein

A:Molecule type: protein

A:Residues: 1-24 < RAM>

A:Cross-references: CAS:137706-81-1

A:Cross-references: CAS:137706-81-1

A:Experimental source: venom

A:Note: sequence extracted from NCBI backbone (NCBIP:116001); structure confirmed by C:Cromment: This omega-conotoxin blocks presynaptic calcium channels.

C:Csuperfamily: omega-conotoxin

C:Keywords: acetylcholine release inhibition; amidated carboxyl end; calcium channel F:1-15,8-18,14-23/Disulfide bonds: #status predicted

F:1-15,8-18,14-23/Disulfide bonds: #status predicted

F:24/Modified site: amidated carboxyl end (Thr) #status experimental
                                                                        RESULT 15
A47437
  LDL-receptor-related protein - Caenorhabditis elegans
C;Species: Caenorhabditis elegans
C;Date: 10-Sep-1999 #sequence_revision 10-Sep-1999 #t
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C;Species: Conus striatus (striated cone)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 23-May-1997
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Biochemistry 31, 9919–9926, 1992
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45.0%;
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Pred. No. 4
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Pred. No. 1
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10-Sep-1999 #text_change 18-Aug-2000
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1.6;
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F;53-87/Domain: LDL receptor ligand-binding repeat homology <LDL1>
F;92-131/Domain: LDL receptor ligand-binding repeat homology <LDL1>
F;138-175/Domain: LDL receptor ligand-binding repeat homology <LDL3>
F;182-218/Domain: LDL receptor ligand-binding repeat homology <LDL4>
F;223-257/Domain: LDL receptor ligand-binding repeat homology <LDL4>
F;223-257/Domain: LDL receptor ligand-binding repeat homology <LDL5>
F;262-297/Domain: LDL receptor ligand-binding repeat homology <LDL5>
F;262-297/Domain: EDF receptor ligand-binding repeat homology <LDL6>
F;302-336/Domain: EGF homology <EGFI>
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A;Residues: 1-4753 <WIL>
A;Cross-references: EMBL:Z73907; PIDN:CAA98124.1; GSPDB:GN00019;
A;Experimental source: clone F29D11
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A;Residues: 1-4753 <Y02>
A;Cross-references: EMBL:M96150; NID:g156359; PIDN:AAA28105.1; PID:g156360
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submitted to the EMBL Data Library, July 1992
A;Description: A gene_for an LDL receptor-related protein (LPR) in the nematode C.ele
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A;Title: A gene for a low density lipoprotein receptor-related
A;Reference number: A47437; MUID:93281621; PMID:8506301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 A;Map position: 1
A;Introns: 31/1; 88/1; 132/1; 172/3; 219/1; 298/1; 463/2; 526/2; 585/3; 780/2; 874/2;
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A; Accession: S27801
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F;4092-4130/Domain: EGF homology <EGF2>
F;4343-4386/Domain: LDL receptor YWTD-containing repeat homology <YW38>
Search completed: May 20, 2003, 15:41:53 
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IO COT-2001 (Rel. 40, Created)
DT 16-OCT-2001 (Rel. 40, Last sequence updated)
DT 15-OCT-2001 (Rel. 41, Last annotation updated)
DT 15-OCT-2002 (Rel. 41, Last annotation updated)
DE Omega-type conotoxin SO3 precursor.
GN SO3.
COnus striatus (Striated cone).
CC Neogastropoda; McLazoa; Mollusca; Gastropoda;
CC Neogastropoda; Conoidea; Conidae; Conus.
NCBL_TaxLD=6493;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE-Venom duct;
RN 
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Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
NCBI_TaxID=6493;
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92.8%; 92.0%; 7ative	7628 MW;	70	70	65	61	70	44	22		oxin; Neu	otoxin; 1	l; Conoto:	•	31908.1;) license	license	statement	: institu	ormatics	Institute	ry is co			ONGS TO	ITY: Exp	ATTON . S.		ge-sensi	-conotox	44(1999)		Conus st	IAO D. H
Score 142; DB 1; Length 71; Pred. No. 7.2e-11; 0; Mismatches 2; Indels 0; Gaps 0;	(POTENTIAL). CE7070DCE3094D73 CRC64;	AMIDATION (G-71 PROVIDE AMIDE GROUP)	BY SIMILARITY.	BY SIMILARITY.	BY SIMILARITY.	OMEGA-TYPE CONOTOXIN SO3.	POTENTIAL.	POTENTIAL.		Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;		oxin.				or send an email to license@isb-sib.ch).	entities requires a license agreement (See http://www.isb-sib.ch/announce/	and this statement is not removed. Usage by and for commercial		European Bioinformatics Institute. There are no restrictions on its	between the Swiss Institute of Bioinformatics and the EMBL outstation -	This SWISS-PROT entry is copyright. It is produced through a collaboration			SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE	TISSUE SPECIFICITY: Expressed by the venom duct.	STROELLILAR IOCATION: Secreted (By similarity)			FUNCTION: Omegra-conditions and at presumantic membranes, they bind			"Conceptides from Conus striatus and Conus textile by cDNA	Lu BS., Yu F., Zhao D., Huang PT., Huang CF.;

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Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., Jones A., Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.; "Novel omega-conotoxins from Conus catus discriminate among neuronal calcium channel subtypes."; J. Biol. Chem. 275:35335-35344(2000).
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Eukaryota; Metazoa; Mollusca;
Neogastropoda; Conoidea; Conic
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15-JUN-2002 (Rel. 41, Last annotation update)
Onega-conotoxin MVIIa precursor (SNX-111) (Ziconotide).
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Rivier J.E., de Santos V., Cruz L.J.;
"Peptide neurotoxins from fish-hunting cone
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE=Venom duct;
PubMed=10938268;
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PubMed-7826361;

Rim J.I., Takahashi M., Ohtake A., Wakamiya A., Sato K.;

"Tyr13 is essential for the activity of omega-conotoxin

GVIA, specific N-type calcium channel blockers.";

Biochem. Biophys. Res. Commun. 206:449-454(1995).
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Chung D., Gaur S.,
"Determination of
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Zeikus R.D., McIntosh J.M., Galyean
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                                                                                                                                                                                                     MEDLINE-95367555; PubMed-7640281; Kohno T., Kim J.-I., Kobayashi K., Kodera Three-dimensional structure in solution blocker omega-conotoxin MVIIA."; Biochemistry 34:10256-10265(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DISULFIDE BONDS.
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                               spectroscopy.";
rens Lett. 370:163-169(1995)
                                                                                     Basus V.J., Nadasdi "Solution structure
                                                                                                                                                                                                                                                                                                                         STRUCTURE
                                                                                                                                        PubMed=
                                                                                                                                                           STRUCTURE BY NMR.
  STRUCTURE BY
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    NMR.
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                                                                                          omega-conotoxin
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                                                                                                                  Ramachandran
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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                                                                                                                                                                                                                                                                                   Kodera
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                McIntosh J.M.,
                                                                                                 J., Miljanich
in MVIIA using
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, Varga J., (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Discrimination from Conus magu
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                                                                                                                                                                                                                                                             a Y., Ma
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                                                                                                                                                                                                                                                             Maeda T.,
he calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              omega-conopeptides.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nadasdi L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               magus venom.
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Gray W.R.,
                                                                                              G.P.;
2D NMR
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                                                                                                                                                                                                                                                               Sato K.;
channel
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RESULT 3
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"A consensus structure for omega-conotoxins with different
selectivities for voltage-sensitive calcium channel subtypes:
comparison of MVIIA, SVIB and SNX-202.";
J. Mol. Biol. 263:297-310(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "Solution structure and backbone dynamics precursor.";
Protein Sci. 10:538-550(2001).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Nielsen K.J., Adams
Lewis R.J.;
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Nielsen K.J., Thomas L., Lewis R.J.,
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -I- SUBCELLULAR LOCATION: Secreted.
-I- TISSUE SPECIFICITY: Expressed by the venom duct.
-I- TISSUE SPECIFICITY: Expressed by the venom duct.
-I- PHARMACEUTICAL: Is under clinical trial by Neurex. It blocks act pain in patients who no longer obtain relief from oplate drugs.
pain in patients who no longer obtain relief from blocking is 100 to 1000 times more potent than morphine. By blocking is 100 to 1000 times more potent than morphine. By blocking calcium channels it disable nerves that transmit pain signals.
-I- SIMPLARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STRUCTURE BY NMR.
MEDLINE=21243158; PubMed=11344322;
Goldenberg D.P., Koehn R.E., Gilbe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRUCTURE BY
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                                                                                                                                            MUTAGEN
MUTAGEN
SEQUENCE
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PDB;
PDB;
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46 CKGKGAKCSRLMYDCCTGSCRSGKC
                                  1 CKGTGKPCSRIAYNCCTGSCRSGKC
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: C60133; C60133.

JH0700.
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                                                                                                                                                                                                                                                                                                                                                                                                                                             C60133;
JH0700;
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                                                                       l similarity
19; Conserv
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12-AUG-97.
01-MAR-00.
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23-AUG-00.
                                                                                                                                                                                                                                                                                                                              Signal;
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                                                                                                                                                                                                                                                                                                                                               neurotoxin;
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                                                                                                                                                                                                                                                                                                                              xxin; Neurotoxin; Toxin; Calcium channel inhibitor;
3D-structure; Pharmaceutical
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                                                                                            79.1%;
76.0%;
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                                                                                                                                               AMIDATION (G-71 PROVIDE AMIDE GROUP).
K->A: LITTLE DECREASE IN ACTIVITY.
Y->A: STRONG DECREASE IN ACTIVITY.
E2A32725C81AF31D CRC64;
                                                                                              Score 121; DB 1;
Pred. No. 2.3e-08;
                                                                                                                                                                                                                                                                            OMEGA-CONOTOXIN MVIIA
                                                                                                                                                                                                                                                                                                                POTENTIAL
                                         25
                                                                               Mismatches
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sirockin F., Lefevre J.-F.; of omega-conotoxin MVIIA: tlexchange.";
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; of an omega
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                                                                                                                   Length 71;
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                                                                                     Indels
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opiate drugs. It
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DISULFID
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MOD_RES
SEQUENCE
                                                                                               channel subtypes using omega-conotoxin Biochemistry 26:2086-2090(1987).
-I- FUNCTION: Omega-conotoxins act at |
                                                                                                                                                                       Olivera B.M., Cruz L...
Zeikus R.D., McIntosh
Rivler J.E.;
                                                                                                                                                                                       MEDLINE-87299637; PubMed-2441741;
Olivera B.M., Cruz L.J., de Santos V
Zeikus R.D., McIntosh J.M., Galyean
                                                                                                                                                                                                                                                                                                           Conús magus (Magus cone).
Eukaryota; Metazoa; Mollusca;
Neogastropoda; Conoidea; Conic
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01-NOV-1988 (Rel. 09, Created)

01-NOV-1988 (Rel. 09, Last sequence up

15-JUN-2002 (Rel. 41, Last annotation

Omega-conotoxin MVIIb (SNX-159).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONMA
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PROPEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      calcium channel subtypes.";
J. Biol. Chem. 275:35335-35344(2000).
-!- FUNCTION: Omega-conotoxins act at
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adam
Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L.,
Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Omega-conotoxin CVIA precursor.
Conus catus (Cat cone)
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                                                                                                                                                                                                                                                          SEQUENCE
                                                                                                                                                                                                                                                                                             NCBI_TaxID=6492;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Presynaptic neurotoxin;
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                                                                                                                                                       "Neuronal calcium channel antagonists.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Amidation; Signal.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 CKGTGKPCSRIAYNCCTGSCRSGKC
                          and block voltage-sensitive calcium channels (
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by +>-
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similarity). This toxin blocks N-type
SUBCELULIAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the v
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FUNCTION: Omega-conotoxins act at presynaptic membranes, and block voltage-sensitive calcium channels (VSCC) (By
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                    SIMILARITY: BELONGS TO
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68.0%;
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                                        Expressed by the venom duct
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                                                                                                                                                                                       =2441/41;
de Santos V., Lecheminant G.W.,
calvean R., Varga J., Gray W.
                                                                                                                                                                                                                                                                                                               Conidae; Conus
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                      THE
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AMIDATION (G-71 PROVIDE AMIDATION (
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Pred. No. 2
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dae; Conus.
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                      O-SUPERFAMILY
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on update)
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                      CONOTOXINS.
                                                                            (VSCC).
                                                                                             membranes,
                                                                                                                                   magus
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                                                                                                                                                                                          Griffin
7.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Jones A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     D.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GROUP)
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                      OMEGA-TYPE
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CXOB_CONCT P58918; 15-JUN-2002 15-JUN-2002

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41, Created) 41, Last seq

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Matches 17
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                                                                 MOD_RES
SEQUENCE
                                                                                 DISULFID
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                                                                                                                                                                                                                      Sharpe I.A., Luchian T., Adams Matheson J.-L., Drinkwater R.,
                                                                                                                                                                                                                                                                                                Conus catus (Cat cone).
Eukaryota; Metazoa; Mollusca;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HSSP; P05484; IMVI. Presynaptic neurotoxin;
                                                                                                    DISULFID
                                                                                                            Presynaptic 
Amidation.
                                                                                                                                            -1- SUBCELLULAR LOCATION: Secreted.
-1- TISSUE SPECIFICITY: Expressed b
                                                                                                                                                                                                                                                PubMed-10938268;
                                                                                                                                                                                                                                                        TISSUE=Venom
                                                                                                                                                                                                                                                                SEQUENCE, AND SYNTHESIS.
                                                                                                                                                                                                                                                                               Neogastropoda; Con
NCBI_TaxID=101291;
                                                                                                                                                                                                                                                                                                                 Omega-conotoxin CVIC
                                                                                                                                                                                                                                                                                                                       15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence up
15-JUN-2002 (Rel. 41, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
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                                                                                                                                                                                                                                      Lewis R.J., Nielsen K.J.,
                                                                                                                                                                                                              'Novel omega-conotoxins from Conus
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          1 CKGTGKPCSRIAYNCCTGSC-RSGKC
                                                                                                                                                                                                                                                                                                                                                                                                              1 CKGTGKPCSRIAYNCCTGSCRSGKC
                                                                                                                                    SIMILARITY:
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CKGKGQSCSKLMYDCCTGSCSRRGKC
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JH0701; JH0701.
; P05484; 1MVI.
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17; Conser
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7 AA;
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                                                                  AA;
                                                                                                                                                                                                                                                                                        Conoidea;
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                                                                  2790 MW;
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                                                                                                                                                                                                             K.J., Craik D.J., Loughnan M.L., Adams
T., Adams D.J., Bond T., Thomas L., J
T., Alewood P.E.;
kwater R., Andrews P.R., Alewood P.E.;
ins from Conus catus discriminate amon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Neurotoxin;
                                                                                                                   Neurotoxin; Toxin;
                                                                                                                                   Expressed by the venom of TO THE O-SUPERFAMILY OF
                                                                                                                                                                                                                                                                                         Conidae;
                                                                BY SIMILARITY.
BY SIMILARITY.
BY SIMILARITY.
AMIDATION.
56EFC382335C4A8B CRC64;
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                                Pred. No. 9.9
1; Mismatches
                                         Score 104.5;
Pred. No. 9.
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E4B9CE5EFAA3734D
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26
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No.
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                                          9e-07
                                                                                                                                                                                                                                                                                                 Caenogastropoda;
                                                  ВB
                                                                                                                     Calcium channel inhibitor;
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                                                                                                                                     OMEGA-TYPE
                                                                                                                                                                                                               neuronal
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Best Local S
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Neogastropoda; Conoidea
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15-JUN-2002 (Rel. 41, Omega-conotoxin CVIB.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              calcium channel subtypes.";
J. Biol. Chem. 275:35335-35344(2000)
-!- FUNCTION: Omega-conotoxins act a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., Adams Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas L., J. Matheson J.-L., Drinkwater R., Andrews P.R., Alewood P.F.; "Novel omega-conotoxins from Conus catus discriminate amon"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE, AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DISULFID DISULFID DISULFID
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P58916;
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                                                                     Favreau P., Gilles N., Lamthanh H., Bournaud R., Shimahara T., Bouet F., Laboute P., Letourneux Y., Menez A., Molgo J., Le Gall F.; Bouet F., Laboute P., Letourneux Y., Menez A., Molgo J., Le Gall F.; Bouet F., Laboute P., Letourneux Y., Menez A., Molgo J., Le Gall F.; Boochemistry 40:14567-14575(2001).

**Ricohemistry 40:14567-14575(2001).

**Biochemistry 40:14567-14575(2001).

**Biochemistry 40:14567-14575(2001).

**A new omega-conotoxins act at presynaptic membranes, they bind and block voltage-sensitive calcium channels (VSCC). This toxin and block voltage-sensitive calcium channels (VSCC). This toxin blocks N-type calcium channels, but unexpectedly, does not show blocks N-type calcium channels, but unexpectedly. Causes not show blocking activity at amphibian neuromuscular junction. Causes any blocking activity at amphibian neuromuscular junction. Causes shaking activity at amphibian properties of the state of 
                                                                                                                                                                                                                                                                                                                                                                                                  Conus consors (Singed cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; Caenogastropoda;
Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-JUN-2002 (Rel. 41, Greated)
15-JUN-2002 (Rel. 41, Last sequence up
15-JUN-2002 (Rel. 41, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CONCN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MOD_RES
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                                                                                                                                                                                                                                                                                                                                                                             Neogastropoda; Con
NCBI_TaxID=101297;
                                                                                                                                                                                                                                                                                                                                               SEQUENCE,
                                                                                                                                                                                                                                                                                                                            TISSUE-Venom;
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TISSUE SPECIFICITY: Expressed by the venom
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 μ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FUNCTION: Omega-conotoxins act at presynaptic membranes, and block voltage-sensitive calcium channels (VSCC) (By similarity). This toxin blocks N-, P-, and Q-type calcium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CKGKGASCRKTMYDCCRGSCRSGRC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CKGTGKPCSRIAYNCCTGSCRSGKC 25
SUBCELLULAR LOCATION: Secreted TISSUE SPECIFICITY: Expressed b MASS SPECTROMETRY: MW=2847.74:
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15; Conser
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BY SIMILARITY.
BY SIMILARITY.
AMIDATION.
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No. 2.
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          by the venom duct.
; METHOD=Electrospray
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1.5e-06;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          channel inhibitor;
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Matches 16
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Hydroxylation; Amidation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BINDING
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                                                                                                                                                                                                                                                                                                                                                                                           p37300;
01-0CT-1994 (Rel. 30, Created)
01-0CT-1994 (Rel. 30, Last sequence update
15-JUN-2002 (Rel. 41, Last annotation upda
0mega-conotoxin MVIIc precursor (SNX-230)
Conus magus (Magus cone).
Conus magus (Magus cone).
Eukaryota; Metazoa; Mollusca; Gastropoda;
Eukaryota; Metazoa; Mollusca; Conidee; Conus.
                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A., AND SYNTHESTS.
MEDILINE-92337922; PubMed-1352986;
Hillyard D.R., Monje V.D., Mintz I.M., Bean B.F.
Ramachandran J., Miljanich G.P., Azimi-Zoonooz
Cruz L.J., Imperial J.S., Olivera B.M.;
"A new Conus peptide ligand for mammalian presy
"Neuron 9:69-77(1992).
                                                                                                                                                                                                                                                                                                                                                                        Neogastropoda; Conoidea; Conidae; NCBI_TaxID=6492;
                                                                                                                                                                                                          "Solution structure of omega-conotoxin of P-type calcium channels, using 1H NM relaxation matrix analysis.";
J. Mol. Biol. 248:106-124(1995).
                                                                                                                                                                                                                                                                             STRUCTURE
      Nielsen K.J., Adams
Lewis R.J.;
                                                                                                                                                                                                                                                 Basus V.J.;
                                                                                                                                                                                                                                                            Farr-Jones S.,
                                                                                                                                                                                                                                                                   STRUCTURE BY NMR. MEDLINE-95248539;
                                                                                                                                                                                           STRUCTURE
                                                                                           Kim J.I., Takahashi M.,
                                                                                                       MUTAGENESIS OF TYR-15.
PubMed=7677735;
                                                                                                                                                                                 PubMed-10373375
                                                                                                                                                       Structure-activity
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                                                                                                                                  tivity relationships of omeg
e hybrids at N and P/Q-type
289:1405-1421(1999).
                                                                                                                                                                                                                                                                                                                                                                                                                                                               STANDARD;
                                                                                                                                                                                                                                                            Miljanich
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2839
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ljanich G.P., Nadasdi L.,
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59.3%;
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                                                                                                                                                                            Thomas L.,
                                                                                                 Martin-Moutot N.,
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SIMILARITY).
BY SIMILARITY
BY SIMILARITY.
BY SIMILARITY.
HYDROXYLATION.
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4; Mismatches
     Secreted.
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                                                                                                                                                                             Bond T.,
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                         lclum channels (VSCC). This toxin lclum channels (VSCC). This toxin as well as types of high-threshold resistant to both dihydropyridines
                                                                                                                                                  omega-conotoxins MVIIA, type calcium channels.";
                                                                                                                                                                                                                                     NMR
                                                                                                                                                                                                                                                                                                                                                                                                                              update)
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                                                                                                                                                                                                                                               MVIIC,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               6e-06
                                                                                                                                                                                                                                     spectroscopy
                                                                                                                                                                                                                                                                                                                                                                                                   Caenogastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                     (Fragment).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CALCIUM
                                                                                                                                                                                                                                                                                                              presynaptic Ca2+ channels.";
                                                                                                     Seagar M.J.,
                                                                                                                                                                                                                                                                 Ramachandran
                                                                                                                                                                                                                                                                                                                                          B.P.,
                                                                                                                                                                              Alewood P.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CRC64;
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                                                                                                                                                                                                                                              a high affinity ligand
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                                                                                    MVIIC to
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                                                                                                                                                                                Craik D.J.,
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Q26350;
15-DEC-1998 (Rel. 37, Created)
15-DEC-1998 (Rel. 37, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation updat
                                                                                                                                                                                                                                                                                             CONMA
                                                                                                                            "A new Conus peptide ligand for Ca channel subtypes.", Neuropharmacology 32:1141-1149(1993).
                                                                                                                                                             SEQUENCE FROM N.A.
MEDLINE=94150815; PubMed=8107968;
Monje V.D., Haack J.A., Naisbitt S.R.,
                                                                                                                                                                                                                     Conus magus (Magus cone).
Eukaryota; Metazoa; Mollusca;
                                                                                                                                                                                                                             Omega-conotoxin MVIId precursor (SNX-238) (From Conus magus (Magus come)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            the European Bioinformatics Institute or The use by non-profit institutions as long modified and this statement is not removed entities requires a license agreement (See
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                                                                                           Sevilla P.;
                                                                                                  Civera C., Vazquez
                                                                                                           PubMed=9920728;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EMBL; S40826; AAB22674.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or send an email to license@isb-sib.ch).
                                                                                                                     STRUCTURE
                                                                                                                                                                                                   NCBI_TaxID=6492;
                                                                                                                                                                                                           Neogastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YON_TER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        iydroxylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              resynaptic neurotoxin; Neurotoxin; Toxin;
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                                                                                                                                                                                                                                                                                                                                ω
                                                                                                                                                                                                                                                                                                                                                 1 CKGTGKPCSRIAYNCCTGSC-RSGKC
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                                                                                                                                                                                                                                                                                    CONMA
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                                                                                                                                                                                                            Conoidea;
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228
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                                                                                                 Sevilla J.M.,
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TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
                                                                                                                                                                                                                                                                                                                                                                                                       M.
                                                                                                                                                                                                           Conidae;
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          THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE
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                                                                                                                                                                                                                                                                                                                                                                           Score 98.5;
Pred. No. 5
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                                                                                                                                                                                                                                                                                                                                                                                                                               HYDROXYLATION (PROBABLE).
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ESSENTIAL FOR CA
                                                                                                                                                                                                          Gastropoda; Caenogastropoda;
dae; Conus.
                                                                                                                                                                                                                                                                                    PRT;
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                                                                                                                                                                                                                                                                                                                                                                            6e-06;
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CALCIUM CHANNEL BINDING
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Best Local
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P28881; Q9UB25;
01-DEC-1992 (Rel. 24, Created)
16-CCT-2001 (Rel. 40, Last sequence update)
15-UN-2002 (Rel. 41, Last annotation update)
Comega-conotoxin SVIB precursor (SNX-183)
Conus striatus (Striated cone).
Eukaryota; Metazoa; Mollusca; Gastropoda; C:
Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DISULFID DISULFID
                                                    selectivities for voltage-sensitive calcium channe comparison of MVIIA, SVIB and SNX-202.*;
J. Mol. Biol. 263:297-310(1996)
-i- FUNCTION: Omega-conotoxins act at presynaptic and block voltage-sensitive calcium channels (
                                                                                                                         STRUCTURE BY NMK.
MEDLINE-97070382; PubMed-8913308;
Mielsen K.J., Thomas L., Lewis R.J., Alewood P.F., C
"A consensus structure for omega-conotoxins with dif
"A consensus for voltage-sensitive calcium channel
                                                                                                                                                                                                                                                                   Ramilo C., Zafaralla G.C.,
Gray W.R., Kristipati R.,
Cruz L.J.;
"Novel alpha- and omega-cc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          the European Bioinformatics Institute. The use by non-profit institutions as long modified and this statement is not removed.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TISSUE=Venom duct;
MEDLINE=20037955; PubMed=1
Lu B.-S., Yu F., Zhao D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EMBL; S69322; AAB29902.1; HSSP; P05484; 1MVI.
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                                                                                                                                                                                                                                                                                                                                                MEDLINE=93003172; PubMed=1390774;
                                                                                                                                                                                                                                                                                                                                                                        TISSUE-Venom
                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 46-71,
                                                                                                                                                                                                                                                                                                                                                                                                                                                   cloning.
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                                                                                                                                                                                                                                                       Biochemistry
                                                                                                                                                                                                                                                                                                                                                                                                                             Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Lu B.-S., Yu F., Zhao D., Huang P.-T., "Conopeptides from Conus striatus and o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PEPTIDE
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  blocks N-, P-, and Q-type calcium SUBCELLULAR LOCATION: Secreted. TISSUE SPECIFICITY: Expressed by t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CKGTGKPCSRIAYNCCTGSCRSGKC
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                                                                                                                                           Alewood P.F., Crain -
the venom duct.
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J., Miljani
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                                                                                                                                                                                                                                                                       striatus venom.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length
                                                      membranes, they bind (VSCC). This toxin
                                                                                                                                                                                                                                                                                                                                L.G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                channel
                                                                                                                                                                          Craik D.J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    by and for
                                                                                                                                     subtypes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ьy
                                                                                                                                                                                                                                                                                                         G.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      restrictions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDNA
                                                                                                                                                                                                                                                                                                                                Yoshikami
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                                                                                                                                                                                                                                                                                                             Olivera
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      'n
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Best Local
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 PEPTIDE
DISULFID
DISULFID
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DISULFID
DISULFID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its most profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entitles requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
                                                                                                         J. Biol. Chem. 275:35335-35344(2000).

1- FUNCTION: Omega-conotoxins act at presynaptic membranes, and block voltage-sensitive calcium channels (VSCC) (By similarity). This toxin blocks N-type calcium channels.

1- SUBCELIULAR LOCATION: Secreted.

1- TISSUE SPECIFICITY: Expressed by the vance Annal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MOD_RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DISULFID
                                                                                                                                                                                         Lewis R.J., Nielsen K.J., Craik D.J., Loughnan M.L., A Sharpe I.A., Luchian T., Adams D.J., Bond T., Thomas I Matheson J.-L., Drinkwater R., Andrews P.R., Alewood F "Novel omega-conotoxins from Conus catus discriminate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EMBL; AF146346; AAD31906.1; ~. PIR; C44379; C44379.
                                                                                                                                                                                                                                         PubMed=10938268
                                                                                                                                                                                                                                                   TISSUE-Venom duct,
                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A., SEQUENCE OF
                                                                                                                                                                                                                                                                                                            Omega-conotoxin CVID precursor.
Conus catus (Cat cone)
Eukaryota, Metazoa, Mollusca, Gastropoda, Caenogastropoda,
Neogastropoda, Conoidea, Conidae, Conus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PDB; 1MVJ; 12-AUG-97.
InterPro; IPR004214; Conotoxin.
Pfam; PF02950; Conotoxin; 1.
                                                                        Presynaptic
                                                                                              -!- TISSUE SPECIFICITY:
                                                                                                                                                                                                                                                                                                   NCBI_TaxID-101291;
                                                                                                                                                                                                                                                                                                                                                                                                           CXOD_CONCT
                                                                                                                                                                                                                                                                                                                                                                                                                       CONCT
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Presynaptic neurotoxin; Neurotoxin; Toxin;
                                     PROPEP
                                                  SIGNAL
                                                              Amidation;
                                                                                                                                                                                                                                                                                                                                                           15-JUN-2002 (Rel. 41, Created)
15-JUN-2002 (Rel. 41, Last sequence u
15-JUN-2002 (Rel. 41, Last annotation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     46 CKLKGQSCRKTSYDCCSGSCGRSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 CKGTGKPCSRIAYNCCTGSC-RSGKC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS. OMEGA-TYPE FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 l Similarity
15; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Signal;
                                                          Signal.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative
                                                                        neurotoxin;
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46
53
71
    54421
36631
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                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                      and Venom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3D-structure
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7741 MW;
  22
45
72
61
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57.7%;
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45
61
61
71
71
                                                                                              Expressed by the venom duct.
TO THE O-SUPERFAMILY OF CONOTOXINS.
                                                                      Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ن</u>
OMEGA-CONOTOXIN (BY SIMILARITY. BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 89.5;
Pred. No. 0
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OMEGA-CONOTOXIN
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                                                                                                                                                                                                                                                                           46-72,
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                                                                                                                                                                                                                                                                                                                                                           on update)
                                                                      Toxin;
                                                                                                                                                                                                                                                                                                                                                                                                          73
                                                                                                                                                                                                                                                                            SYNTHESIS,
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.00013;
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                                                                        Calcium
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 72;
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Е.,
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                                                                         inhibitor;
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                                                                                                OMEGA-TYPE
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Best Local S
Matches 13
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                                                                                                                                                      CXO7_CONGE
P05483;
                                                                      01-NOV-1988 (Rel. 09, Created)
01-NOV-1988 (Rel. 09, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation updat)
15-JUN-2002 (Rel. 41, Last annotation updat)
0mega-conotoxins GVIIA/GVIIB (SNX-178).
Conus geographus (Geography cone).
Eukaryota, Metazoa, Mollusca; Gastropoda; C
Neogastropoda; Conoidea; Conidae; Conus.
                                                                                                                                                                                                                                                                                                               DISULFID
DISULFID
MOD_RES
MOD_RES
SEQUENCE
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MOD_RES
SEQUENCE
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MEDITINE-86070213; PubMed-4071055;
MEDITINE-86070213; PubMed-4071055;
Olivera B.M., Gray W.R., Zeikus R.D., M
Rivier J.E., de Santos V., Cruz L.J.;
"Peptide neurotoxins from fish-hunting"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Miljanich G.P., Bitner R.S., Bowersox S.S., Fox J.A., Vyamashiro D.H.;
"Method of treating ischemia-related neuronal damage.";
Patent number US5051403, 24-SEP-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                     -i- FUNCTION: Omega-conotoxins act at presynaptic membranes, and block voltage-sensitive calcium channels (VSCC).
-i- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Eukaryota; Metazoa; Mollusca; Gast
Neogastropoda; Conoidea; Conidae;
NCBI_TaxID-61198;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conus radiatus (Rayed cone).
Eukarvota: Metazoa; Mollusca; Gastropoda; Caenogastropoda;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CONRA
                                                                                                                                                                                                                                                                                                                                                                                            Presynaptic neurotoxin; Neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Omega-conotoxin RVIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
15-JUN-2002 (Rel. 41,
                                              SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                 Hydroxylation.
                                                                 NCBI_TaxID=6491;
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                                                                                                                                                                                                                                                                               Local
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                                                                                                                                                                                                                                              1 CKGTGKPCSRIAYNCCTGSCRS--GKC
                                                                                                                                                                                                                                                                                                                                                                                                                             TISSUE SPECIFICITY:
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13; Conser
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72
73 AA;
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                                                                                                                                                                                                                                                                     Conservative
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72
7748 MW;
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26
4
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48.1%;
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Last annotation update)
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Pred. No.
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HYDROXYLATION.
F554C1F8A01A88AF CRC64;
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AMIDATION (G-73 PROVIDE AMIDE GROUP).

C4CEBD30C77DAEC3 CRC64;
                                                                                                                                                                                                                                                                               Score 69.5;
Pred. No. 0
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                       McIntosh J.M., Varga J.,
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                                                                                                                         update)
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 cone snails.";
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0.0006;
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.015;
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                                                                                        Caenogastropoda;
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Best Local S
Matches 15
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30-MAY-2000 (Rel. 39, Last se
30-MAY-2000 (Rel. 39, Last se
15-JUN-2002 (Rel. 41, Last a)
15-JUN-2002 (Rel. 41, Last a)
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P56714;
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SEQUENCE
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Fainzilber M., Lo
Burlingame A.L.,
                                                                                                                                                                                                                                                                                     Conus textile (Cloth-of-gold cone).
Eukaryota; Metazoa; Mollusca; Gastr
Neogastropoda; Conoidea; Conidae; C
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PIR;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Science 230:1338-1343(1985)
                                                                                                                                                                                                        "A novel hydrophobic omega-conotoxin sensitive calcium channels.";
                                                                                                                                                                                                                                                    TISSUE-Venom;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hydroxylation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Presynaptic neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  +
                                                                                                                                                       Kobayashi K., Sasaki T., Sato K., Kohno T.;
Three-dimensional solution structure of omega-conotoxin
                                                                                                                                                              MEDLINE-20552922; PubMed-11101291; Kobayashi K., Sasaki T., Sato K.,
                                                                                                                                                                                                 Biochemistry
                                   D-structure.
                                           resynaptic
                                                                                                                                                                                                                                                                                                                                                                                                  -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and block voltage-sensitive calcium channels (VSCC).
SUBCELLULAR LOCATION: Secreted.
TISSUE SPECIFICITY: Expressed by the venom duct.
MISCELLANEOUS: THE SEQUENCE SHOWN IS THAT OF CONOTOXIN:
SIMILARITY: BELONGS TO THE O-SUPERFAMILY OF CONOTOXINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FUNCTION:
                                                                                                                                                                                                                                                                                                                                                                                                  CKSPGTPCSRGMRDCCT-SCLLYSNKC 26
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                                                                                                                                                                                                                                                                                                                                                                                                                                   15; Conser
                                                     13-DEC-00
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8
15
7 AA;
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7
1
1
15
21
21
AA;
                                            neurotoxin;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                 35:8748-8752(1996).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Omega-conotoxins
                                                                                                                                                                                                                                  Lodder
                                                                                                                                                                                                                                                                                                                                                         STANDARD;
                                                                                                                                                                                                                         odder J.C., van der Schors
Geraerts W.P.M., Kits K.S.
                                                                                                                                                                                                                                          PubMed-8679638,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4
7
16
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                                            Neurotoxin;
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Pred.
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57307C69583FB1E7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HYDROXYLATION HYDROXYLATION
 3AFEE21698666294 CRC64;
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                                                                                                                                                                                                                                                                                             Gastropoda; Caenogastropoda;
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e calcium channels (VSCC).
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                      This SWISS-PROT entry is copyright. It is produced through between the Swiss Institute of Bioinformatics and the Entropean Bioinformatics Institute. There are no restructe by non-profit institutions as long as its content use by non-profit institutions as long as its content modified and this statement is not removed. Usage by and
                                                                                                                                        Pallaghy P.K., Norton R.S.;

"Refined solution structure of omega-conotoxin calcium channel binding.";

J. Pept. Res. 53:343-351(1999).

1- FUNCTION: Omega-conotoxins act at presynapt and block voltage-sensitive calcium channel

1- SUBCELLULAR LOCATION: Secreted.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.
MEDLINE-93069266; PubMed-1440648;
Colledge C.J., Hunsperger J.P., II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-JUL-1986 (Rel. 01, Created)
01-FEB-1994 (Rel. 28, Last sequence update)
15-JUN-2002 (Rel. 41, Last annotation update)
Omega-conotoxin GVIA precursor (Shaker peptide)
Omega-conotoxin GVIB; Omega-conotoxin GVIC).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CONGE
                                                                                                                                                                                                                                STRUCTURE BY NMR OF GVIA MEDLINE=99248506; PubMed.
                                                                                                                                                                                                                                                                     Ramachandran J., Basus V.J.;
"Solution structure of omega-conotoxin GVIA using spectroscopy and relaxation matrix analysis.";
Biochemistry 32:7396-7405(1993).
                                                                                                                                                                                                                                                                                                                   STRUCTURE BY NMR OF GVIA.
MEDLINE=93332945; PubMed=8338837;
Davis J.H., Bradley E.K., Miljanich G.P., Nadasdi
                                                                                                                                                                                                                                                                                                                                                                                                                        STRUCTURE BY NMR OF GVIA.
MEDLINE-94047089; PubMed-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Purification and sequence of a geographus venom.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE-85072796; PubMed-6509012; Olivera B.M., McIntosh J.M., Cruz
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conus geographus
Eukaryota; Metazo
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              entities requires a
                                                                                                                                                                                                                                                                                                                                                                                       blocker omega-conotoxin
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                                                                                                                                                                                                                                                                                                                                                                        J. Mol.
                                                                                                                                                                                                                                                                                                                                                                                                 "Three-dimensional structure in
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Metazoa; Mollusca; Gastropoda; Caenogastropoda
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(See http://www.isb-sib.ch/announce/
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R PDB; 10MC; 31-JAN-94.

R Interpro; IPRO[04214; Conotoxin.

R Pfam; PPO2950; Conotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;

W Presynaptic neurotoxin; Neurotoxin; Toxin; Calcium channel inhibitor;

W Hydroxylation; Amidation; Signal; 3D-structure.

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1 29 POPTIDE 46 73 OMEGA-CONOTOXIN GVIB.

1 PEPTIDE 46 71 OMEGA-CONOTOXIN GVIA.

1 PEPTIDE 46 71 OMEGA-CONOTOXIN GVIC.

2 MOD_RES 49 49 HYDROXYLATION.

2 MOD_RES 55 HYDROXYLATION.

2 MOD_RES 66 66 HYDROXYLATION.

3 MOD_RES 66 66 HYDROXYLATION.

4 MOD_RES 72 72 AMIDATION (G-73 PROVIDE AMIDE GROUP) (IN
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Publication No.

Baker, Kevin P.

231, Application US/10123155

US20030068794A1

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CURRENT APPLICATION NUMBER: US/10/123,155
CURRENT FILING DATE: 2002-04-15
                                                                                                     FILE REFERENCE: P3430R1C227
CURRENT APPLICATION NUMBER: US/10/184,644
CURRENT FILING DATE: 2002-06-28
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
TITLE OF INVENTION: ACIDS ENCODING THE SAME
                                                                                                                                                          TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
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ORGANISM: Homo Sapien
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                                                                                                                                                                                                                                                                                                                                                                    PPLICANT: Baker, Kevin P.
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TYPE: DNA
ORGANISM: Homo
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                                    ENGTH: 2380
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Gurney,Austin L.
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Godowski, Paul
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                                                                                                                                                                                               Zhang,Zemin
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   Sapien
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Pred. No.
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; ORGANISM: Homo Sapien
US-10-184-634-597
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Best Local Similarity
Matches 12; Conserv
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NUMBER OF SEQ ID NOS: 612
SEQ ID NO 597
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Best Local
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SEQ ID NO 211
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          TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE FOLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P3430R1C227 CURRENT APPLICATION NUMBER: US/10/184,644 CURRENT FILING DATE: 2002-06-28 Prior Application removed - See File Wrapper or Palm NUMBER OF SEQ ID NOS: 612
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CURRENT FILING DATE: 2002-06-28
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nes 12; Conserv
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Godowski, Paul J.
Gurney, Austin L.
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Desnoyers, Luc
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Gurney, Austin L.
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Godowski, Paul
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o. US20030068684A1
                                                                                                                                                             Smith, Victoria Watanabe, Colin K.
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5. US20030044930A1
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; SEQ ID NO 211
; LENCTH: 708
; TYPE: DNA
; ORGANISM: Homo Sapien
US-10-184-634-211
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; ORGANISM: HOMO
US-10-184-644-211
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Best Local
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                                                                      APPLICANT:
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TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC
TITLE OF INVENTION: ACIDS ENCODING THE SAME
FILE REFERENCE: P3430R1C217
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CURRENT FILING DATE: 2002-06-28
                          TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P3430R1C227
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            CURRENT APPLICATION NUMBER: US/10/184,644
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Goddard, Audrey
Godowski, Paul J.
Gurney, Austin L.
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                                                                        Zhang,Zemin
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                                                                                    Watanabe, Colin K. Wood, William I.
                                                                                                                    Smith, Victoria
                                                                                                                                                                                                            Chen, Jian
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                                                                                                                                  Pan,James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Wood, William I.
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2002-06-28
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    See File Wrapper or Palm

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Pred. No.
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SEQ ID NO 33
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APPLICANT: Chen, Jian
APPLICANT: Desnoyers, Luc
APPLICANT: Goddard, Audre
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CURRENT APPLICATION NUMBER: US/10/184,634
CURRENT FILING DATE: 2002-06-28
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             TITLE OF
                                                         APPLICANT:
                                                                     APPLICANT:
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                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
ORGANISM: Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        UPPLICANT: Zhang, Zemin
ITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME
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                                                                                                                                                                                                                                                                                                                                                                                                                                            ENGTH: 1413
                                                                                                                                                                                                                                                                                  518 CTATGGCCAGCAAGCCAGCCACGAC 542
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nes 11; Conserv
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             INVENTION: SEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ ID NOS:
                                                                                        Gurney, Austin L.
                                                                                                             Goddard, Audrey
Godowski, Paul
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Watanabe, Colin K. Wood, William I.
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Godowski, Paul
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                                        Wood, William I.
                                                      Watanabe, Colin K.
                                                                                   Pan, James
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                                                                     Smith, Victoria
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SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC ACIDS ENCODING THE SAME
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Pred. No.
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LENGTH: 2886
TYPE: DNA
ORGANISM: Homo Sapien
US-10-184-644-7
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US-10-184-634-7
; Sequence 7, Application US/10184634
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                                                                                                                                                     WESULF 11.
US-10-123-155-157
US-10-123-155, Application US/10123155
Sequence 157, Application US/10123155
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CURRENT APPLICATION NUMBER:
CURRENT FILING DATE: 2002-
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NUMBER OF SEQ ID NOS: 612
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                                                                                                                                             Publication No. US26 GENERAL INFORMATION:
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CURRENT APPLICATION NUMBER: US/10/184,634
CURRENT FILING DATE: 2002-06-28
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NUMBER OF SEQ ID NOS: 612
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                                           APPLICANT
APPLICANT:
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                                                                                                                                                                                                                                               640 CAGTGGGCTTCCCTCACTTTATTTTTGTC 671
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                                                                                                                                                                                                                                                                                                         l Similarity
12; Conserv
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Wood,William I.
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                                              Gao, Wei-Qiang
Gerritsen, Mary E.
                                                                                                     Beresini, Maureen
DeForge, Laura
                 Goddard, Audrey
Godowski, Paul
                                                                          Filvaroff, Ellen
                                                                                          Desnoyers, Luc
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Pred. No. 21;
                                                                                                                                                                                                                                                                                                              red. No. 21;
Mismatches
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ORGANISM: Homo Sapien US-10-123-155-157
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US-10-123-155-9
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Best Local Similarity 52.0
Matches 13; Conservative
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                                                                                                        ; ORGANISM: HOMO
US-10-123-155-9
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                                                                                                                                                   SEQ ID NO
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                                                                             Query Match
                                                     Matches
                                                                                                                                                                                                      CURRENT APPLICATION NUMBER: US/10/123,155
CURRENT FILING DATE: 2002-04-15
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                                                                                                                                                                              NUMBER
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                                                                                                                                       TYPE: DNA
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816 CAGAGGCCATCAAGCATGCCAAGGC 840
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                           CKGTGKPCSRIAYNCCTGSCRSGKC
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Wood, William
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                                                                    Similarity
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No. US20030068794A1
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Watanabe,Colin K
Wood,William
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Gerritsen, Mary E.
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                                                        Conservative
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52.0%;
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Pred. No.
                                                                       Score 66;
Pred. No.
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13;
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GENERAL INFORMATION:

APPLICANT: Baker, Kevin P.

Chen, Jian

APPLICANT:

Sequence 225, Application US/10184644 Publication No. US20030044930A1

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; SEQ ID NO 225
; LENGTH: 2692
; TYPE: DNA
; ORGANISM: Homo Sapien
US-10-184-644-225
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                                                                                                                                   Prior Application removed - S.
NUMBER OF SEQ ID NOS: 612
SEQ ID NO 225
LENGTH: 2692
TYPE: DNA
ORGANISM: Homo Sapien
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Best Local S
Matches 11
                                                 Query Match 43.1%;
Best Local Similarity 47.8%;
Matches 11; Conservative
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CURRENT FILING DATE: 2002-06-28
Prior Application removed - See File Wrapper or Palm
NUMBER OF SEQ ID NOS: 612
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CURRENT FILING DATE: 2002-06-28
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1 CKGTGKPCSRIAYNCCTGSCRSG 23
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Pred. No.
                                                                   Score 66; DB 9; Pred. No. 22;
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                                                   Mismatches
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Search completed: May 20, 2003, 15:53:53
Job time: 19.9688 secs
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                                                                                                                                                                                                      ; ORGANISM: Homo Sapien US-10-123-155-211
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                                                                                                                                    Query Match
Best Local Similarity
Matches 12; Conserv
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SEQ ID NO 211
LENGTH: 3266
TYPE: DNA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Publication No.
                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: SECRETED AND TRANSMEMBRANE POLYPEPTIDES AND NUCLEIC TITLE OF INVENTION: ACIDS ENCODING THE SAME FILE REFERENCE: P3330R1C30
                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION NUMBER: US/10/123,155
CURRENT FILING DATE: 2002-04-15
                                                                                                                                                                                                                                                                                                                                                                                                              PPLICANT:
                                                                 2771 CCGGGCCCTCTATGCCTGGCCAGCC 2795
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D. US20030068794A1
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48.0%;
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                                                                                                                                                      Score 66;
Pred. No.
                                                                                                                                      Mismatches
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Perfect score:
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       Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein search, using sw model
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length: 2000000000
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Listing first 45 summaries
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Copyright (c) 1993 - 2003
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US-08-496-847-35
US-08-915-918-35
US-08-13-400A-35
US-08-147-12
US-08-496-847-12
US-08-675-354-12
US-08-675-354-12
US-08-613-400A-12
US-08-613-400A-12
US-09-138-439-12
US-09-1392-979A-12
US-09-392-979A-12
US-07-789-913-12
US-07-789-913-12
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US-08-496-847-36
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US-08-965-918-17
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US-08-496-847-35
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Amstutz, Gary A.
APPLICANT: Bowersox, Stephen S.
APPLICANT: Gohil, Kisborchandra
APPLICANT: Adriaenssens, Peter I.
APPLICANT: Kristlpati, Ramasharma
TITLE OF INVENTION: METHODS AND
TITLE OF INVENTION: FORMULATIONS FOR PREVENTING PROGRESSION OF NEUROPATHIC PAIN
                                                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/08496847
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121	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122	122
79.1	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7	79.7
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US-07-789-913-1	US-09-392-979A-11	US-09-298-017-11	US-08-613-400A-11	US-09-138-439-11	US-08-965-918-11	US-08-675-354-11	US-08-742-774-11	US-08-496-847-11	US-08-049-794-11	US-09-392-979A-17	US-09-392-979A-9	US-09-298-017-17	US-09-298-017-9	US-08-613-400A-36	US-08-613-400A-17	US-08-613-400A-9	US-09-138-439-17
Sequence 1, Appli	Sequence 11, Appl	Sequence 11, Appl	Sequence 11, Appl	Sequence 11; Appl	•	Sequence 11, Appl	-		Sequence 11, Appl		Sequence 9, Appli	Sequence 17, Appl	Sequence 9, Appli	Sequence 36, Appl	Sequence 17, Appl	Sequence 9, Appli	Sequence 17, Appl

ALIGNMENTS

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US-08-496-847-35
              Query Match
Best Local Similarity
 Matches
                                                                                                                                                                            TELEFAX: 650-324-0960
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/496,847
FILING DATE: 27-JUN-1995
CLASSIFICATION: 514
CLASSIFICATION: 514
                                                                                                                                                                                                                                        REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 58
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                      ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM: MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES: 36
CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
                                                                          ORIGINAL SOURCE:
INDIVIDUAL ISOLATE:
                                                                                                                    MOLECULE TYPE:
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ZIP: 94306-1546
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Score 126; DB 1
Pred. No..3e-07;
2; Mismatches
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CKGTGKPCSRIAYNCCTGSCRSGKC 25

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US-08-613-400A-35
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Patent No.
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Best Local :
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                                                                                         Patent No. 6054429
GENERAL INFORMATION:
                                                                                                                        Sequence 35,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEFAX: 650-324-0960 INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER: IBM Compatible
COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
SOFWMARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/965,918
FILING DATE: 07-NOV-1997
CLASSIFICATION: 514
CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION:
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HYPOTHETICAL: NO
ORIGINAL SOURCE:
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LENGTH: 25 amino acids
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TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATTORNEY/AGENT INFORMATION:
NAME: Mohr, Judy M.
REGISTRATION NUMBER: 38,563
REFERENCE/DOCKET NUMBER: 586
                                APPLICANT:
                                                              APPLICANT:
                                                                            APPLICANT:
                                             APPLICANT:
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ZIP: 94306-1546
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                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
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                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
||| | || ||:||:|||||||||||
1 CKGKGAKCSRLAYDCCTGSCRSGKC 25
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CKGKGAKCSRLAYDCCTGSCRSGKC 25
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                                                                                                                                                                                                                                                                                                                                                                                                                amino acid
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   INVENTION:
              INVENTION:
                                                                                                                        Application US/08613400A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                650-324-0960
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                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                              Gadbois,
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                                               Pettus,
                                                                           Bowersox,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              650-324-0880
                                                                                                                                                                                                                                                                                                                                                                                    peptide
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METHODS AND FORMULATIONS FOR PREVENTING
PROGRESSION OF NEUROPATHIC PAIN
                                                                                                                                                                                                                                                                               82.4%;
 Robert, R.
IMPROVED EPIDURAL
METHOD OF PRODUCING ANALGESIA
                                               Mark, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Stephen S.
                                                                              S. Scott
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Pred. No.
                                                                                                                                                                                                                                                                   Mismatches
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US-08-613-400A-35
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US-08-049-794-12
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SEQUENCE CHARACTERISTICS:
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CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 08-MAR-1996
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: protein HYPOTHETICAL: NO ORIGINAL SOURCE:
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APPLICANT:
APPLICANT:
                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Peter Dehlinger
STREET: 350 Cambridge Avenue, Suite 300
                                                           COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                APPLICANT: MILJANICH, GEORGE P
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 08-MA
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REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY:
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94306-1546
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VALENTINO, KAREN L
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                                                                                                                    USA
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80.0%;
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Pred. No. 3e-07;
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CLASSIFICATION: 514
PRIOR APPLICATION DATA:

US 07/814,759

APPLICATION NUMBER: FILING DATE: 19930

19930415

US/08/049,794

INFORMATION FOR SEQ ID NO:

12:

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RESULT 5
US-08-496-847-12
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; OTHER INFORMATION: /note= "where X is Nie"
US-08-049-794-12
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INFORMATION FOR SEQ ID NO: 12
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: AMINO ACID
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL INFORMATION:
                              FILING DATE: 27-JUN-1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0009.31
                                                                                                                                                                                                        COUNTRY: US
ZIP: 94306-1546
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                   SOFTWARE: FastSEQ for Windows Version 2.0 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/496,847 FILING DATE: 27-JUN-1995 CLASSIFICATION: 514
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TELECOMMUNICATION INFORMATION:
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INDIVIDUAL ISOLATE:
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                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION:
NUMBER OF SEQUENCES:
TELEPHONE: 650-324-0880
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CITY: Palo Alto
STATE: CA
                                                                                                                                                                          COMPUTER: IBM Compatible
OPERATING SYSTEM: DOS
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350 Cambridge Avenue, Suite 250
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76.0%;
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Pred. No. 6e-07;
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Best Local Similarity
Matches 19; Conserv
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                                              TELEFAX: (415) 324-U9
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
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APPLICANT:
APPLICANT:
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SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acid
                                                                                                                                    FILING DATE: 30-DEC-1991
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A.
                                                                                                                                                                                                                                                                  CLASSIFICATION:
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Peter Dehlinger
STREET: 350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HYPOTHETICAL: N
ORIGINAL SOURCE:
                                                                                            REFERENCE/DOCKET NUMBER: 58
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                     SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
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MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
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                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
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LOCATION: 12
OTHER INFORMATION: /note- "where X is Nle"
                                                                                                      NAME: STRATION NUMBER: 34,444
REGISTRATION NUMBER: 5865-0009.30
                                                                                                                                                                                      APPLICATION NUMBER: US/08/049,794
FILING DATE: 1993-APR-15
APPLICATION NUMBER: US 07/814,759
                                                                                                                                                                                                                                    APPLICATION NUMBER: 08/67 FILING DATE: 03-JUL-1996
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GOHIL, KISHOR C
                                                                                                                                                                                                                                                                                                                                                                                                                                                  USA
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                                                                             (415) 324-0880
                                                                                                                                                                       UMBER: US 07/814,759
30-DEC-1991
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76.0%;
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                                                                                                                                                                                                                                                       08/675,354
                                                                                                                                                                                                                                                                                                                      US/08/742,774
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Pred. No. 6e-07;
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MOLECULE TYPE:

TOPOLOGY:

linear

protein

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; LOCATION: 12
; OTHER INFORMATION: /note= "where X is Nle"
US-08-742-774-12
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; LOCATION: 12
; OTHER INFORMATION:
US-08-675-354-12
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                                                                                                                                                                                                     TELEFAX: (415) 324-09
NFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HYPOTHETICAL: NORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: SINGH, TEJINUEK APPLICANT: GOHIL, KISHOR C
                                                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                                                                             HYPOTHETICAL: 1
ORIGINAL SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
                                                            FEATURE:
                                                                                                                         MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                   FILING DATE: 30-DEC-1991
ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION:
                                                                                                                                                                                                                                                     TELECOMMUNICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
les 19; Conserv
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                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/08/049,794 FILING DATE: 1993-APR-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY: U
                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 03-JUL-1996 CLASSIFICATION: 530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
                                                                                                                                                                                                                                                                  NAME: Stratford, Carol A.
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0009.30
                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER:
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                                               NAME/KEY: Modified-site
                                                                               INDIVIDUAL ISOLATE:
                                                                                                                                             COPOLOGY:
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350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VALENTINO, KAREN L
MILJANICH, GEORGE P
MILJANICH, GEORGE P
TVENTION: METHODS OF PRODUCING ANALGESIA AND
TVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                        25 amino acids
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30-DEC-1991
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76.0%;
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                  /note=
                                                                               SNX-194,
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Pred. No.
                "where X is Nle"
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                                                                                                    US-08-965-918-12
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                                                    Matches
                                                                                                                                                                                                                                                                    INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: DOS
SOFTWARE: FastSEQ for Windows Version 2.0
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIP: 94306-1546
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
                                                                                                                                                                             MOLECULE TYPE: protein HYPOTHETICAL: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
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CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: 38
REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER: FILING DATE: 07-NOV
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ZIP: 94306-1546
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                                                                                                                 OTHER INFORMATION:
                                                                                                                             LOCATION:
                                                                                                                                         NAME/KEY:
                                                                                                                                                                                                                    TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                               NAME:
INDIVIDUAL ISOLATE: SNX-194,
                                                                                                                                                                                                                                             ENGTH:
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                                                    l Similarity 76.(
19; Conservative
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                                                                                                                                                                                                                                amino acid
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350 Cambridge Avenue, Suite 250
                                                                                                                                                                                                                                          25 amino acids
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                                                                                                                                                                                                                                                                                 650-324-0960
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Amstutz, Gary A
                                                                                                                                                                                                                    linear
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                                                                                                                                                                                                                                                                                                                                                                                                                                             IBM Compatible
                                                                                                                                                                                                                                                                                                650-324-0880
                                                                                                                                                                                                                                                                                                                                                Judy M.
                                                                                                                                                                                                                                                                                                                                                                                   07-NOV-1997
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76.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    METHODS AND FORMULATIONS FOR PREVENTING PROGRESSION OF NEUROPATHIC PAIN
                                                                 80.4%;
76.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Stephen S
                                                                                                             /note=
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                                                                 Score 123; DB 2
Pred. No. 6e-07;
                                                                                                                                                                                                                                                                                                                         5865-0009.34
                                                                                                                  "where X is Nle"
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                                                                                                                                                                     FIGURE
                                                        Mismatches
                                                                                DB 2;
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                                                        Indels
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RESULT 9 US-09-138-439-12 ; Sequence 12, Application US/09138439

Patent No.

INFORMATION:

JUSTICE,

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RESULT 10
US-08-613-400A-12
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                                                                                                          Sequence 12,
Patent No. 60
                                                                                                                                                                                                                                                 Query Match
Best Local Similarity /v...
19; Conservative
                                                                                              GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: US/08/049,794
FILING DATE: 1993-04-15
APPLICATION UDMBER: US 07/814,759
FILING DATE: 30-DEC-1991
ATTOREY/AGENT INFORMATION:
NAME: Stratford, Carol A.
REGISTRATION NUMBER: 34,444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (415) 324-096
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                        ORIGINAL SOURCE:
INDIVIDUAL ISOLATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Peter Dehlinger
STREET: 350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
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                                                                 APPLICANT:
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                                                                                APPLICANT:
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    TITLE OF INVENTION:
                   ITLE OF INVENTION:
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OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Relace
                                                                                                                                                                                                                                                                                                                                       NAME/KEY: Modified-site
LOCATION: 12
OTHER INFORMATION: /note= "where x is Nle"
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CLASSIFICATION:
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REFERENCE/DOCKET NUMBER: 5865-0009.30
                                                                                                                                                                                                     INFORMATION:
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XX: linear
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                                                                                                                             Application US/08613400A
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MILJANICH, GEORGE E
                                              Gadbois, Theresa
Pettus, Mark, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SINGH, TEJINDER GOHIL, KISHOR C
                                                                             Bowersox, S. Scott
                                 Luther,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (415)
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ROBERT, R.
IMPROVED EPIDURAL
METHOD OF PRODUCING ANALGESIA
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                                                                                                                                                                                                                                                                                 Score 123;
Pred. No. 6
                                                                                                                                                                                                                                                                 Mismatches
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Best Local S
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                                                                                                                                                                                                                                                                              Sequence
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INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                 GENERAL INFORMATION:
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APPLICANT: 9
APPLICANT: 0
APPLICANT: 1
APPLICANT: 1
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COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette
 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TELECOMMUNICATION INFORMATION: TELEPHONE: 650-324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CORRESPONDENCE ADDRESS:
ADDRESSEE: Dehlinger & Associates
                                                                                                                                                TITLE OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MOLECULE TYPE: PI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STREET: 550
                                                           STREET: 330 Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER: IBM CON OPERATING SYSTEM: FastSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: Modified-site
LOCATION: 12
OTHER INFORMATION: /note- "where X is Nle"
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US/0 FILING DATE: 08-MAR-1996 CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE/DOCKET NUMBER: 5865-0019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE:
                                            COUNTRY:
                                                                                                     ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INDIVIDUAL ISOLATE: SNX-194, FIGURE 2
                                                                                                                                                                                                                                                                                                                                                      1 CKGAGAKCSRLXYDCCTGSCRSGKC 25
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                                                                                                                                                                                                                                                      19;
                               94306
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19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  amino acid
                                                         CA
                                                                                                                                                                                                                                                                              Application US/09298017
                                            USA
                                                                                     350 Cambridge Avenue, Suite 300
                                                                                                                                          VALENTINO, KAREN L
MILJANICH, GEORGE P
AVENTION: METHODS OF PRODUCING ANALGESIA AND
NVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     350 Cambridge Avenue, Suite 250
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                                                                                                                                                                                                                                       JUSTICE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
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Floppy disk
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76.0%;
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Pred. No. 6e-07;
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                                                                                                                                                                                                                                                                                                                                                                                                                                         DB 3;
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NAME/KEY: Modified; LOCATION: 12; COTHER INFORMATION: US-09-298-017-12
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US-09-392-979A-12
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GENERAL IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0009.30
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
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                                                                                                                                                                                                                                                                                              TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA AND TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                                                                                                                                                                                            APPLICANT:
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                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                             STREET: 350 CITY: Palo Alto STATE: CA
                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
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                                                                                    SOFTWARE: PatentIn Release #1.0, Version #1.25 CURRENT APPLICATION DATA:
                              PRIOR APPLICATION DATA:
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                                                                                                                                                                                          COUNTRY:
                                         CLASSIFICATION:
                                                         FILING DATE:
                                                                                                                                                                                                                                                     ADDRESSEE:
                                                                      APPLICATION NUMBER:
   APPLICATION NUMBER: US/
FILING DATE: 1993-04-15
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19; Conserv
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                                                                                                                                                                             94306
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DATE:
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                                                                                                                                                                                                                                      E: Law Offices of Peter Dehlinger
350 Cambridge Avenue, Suite 300
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SYSTEM: PC-DOS/MS-DOS
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                                                                                                                                                                                                                                                                                                                                                              GOHIL, KISHOR
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                 US/08/049,794
                                                                       US/09/392,979A
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Pred. No. 6e-07;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 3; Length 25;
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; LOCATION: 12
; OTHER INFORMATION: /note= "where X is Nie"
US-09-392-979A-12
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INFORMATION FOR SEQ ID NO: 1
SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
Matches 19; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELECOMMUNICATION INFORMATION:
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                                                                                                                                                                                                                                                                      ZIP: 94306
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
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                                                                                                                                                                        SOFTWARE: PATENTIN Rel
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: 19911112
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ADDRESSEE: Law Office
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                                                                                                                                                                                                                                                                                                                                                                                                                                PITLE OF INVENTION:
                                                                         APPLICATION NUMBER: US 07/561,766
FILING DATE: 02-AUG-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/440,094
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
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                                       FILING DATE: 22-NOV-1989
ATTORNEY/AGENT INFORMATION:
                                                                                                                                           CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                TUMBER OF SEQUENCES:
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                                                                                                                                                                                                                                      COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
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REFERENCE/DOCKET NUMBER: 5865-0005.30
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                                                                                                                                                                                                                                                                                                        94306
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                                                                                                                                                                                                                                                                                                                                       CA
                                Stratford, Carol
                                                                                                                                                                                                                                                                                                                                                                    5: Law Offices of Peter Dehlinger
350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Conservative
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Valentino, Karen L.
Bitner, Robert S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Miljanich, George P. Bowersox, Stephen S.
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300: 12:
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                                                                                                                                                                                                                            Release #1.0, Version #1.25
                                                                                                                                                                                             US/07/789,913
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pred. No. 6e-07;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Mismatches
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TELEFAX: (415) 324-0960 NFORMATION FOR SEQ ID NO:

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TELECOMMUNICATION INFORMATION:

ELEPHONE:

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                                                                                      TELEPHONE: (415) 324-08
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/561,766
EILING DATE: 02-AUG-1990
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07/440,094
FILING DATE: 22-NOV-1989
ATTORNEY,AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tent No.
                                                                                                            NAME: Stratford, Carol A.
REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0005.30
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Peter Dehlinger
STREET: 350 Cambridge Avenue, Suite 300
                               SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              HYPOTHETICAL: NO ANTI-SENSE: NO ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TITLE OF INVENTION: Delayed Treatment Method of Reducing TITLE OF INVENTION: Ischemia-Related Neuronal Damage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide HYPOTHETICAL: NO
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LENGTH: 25 amino acids
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              TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: FILING DATE: 199111 CLASSIFICATION: 514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CITY: Palo Alto
STATE: CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: AMINO ACID
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Bitner, Robert S.
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                  both
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Pred. No. 7
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DB 1;
1.7e-07;
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                                                                                    ; ORIGINAL SOURCE:
; INDIVIDUAL ISOLATE:
US-08-049-794-9
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US-08-049-794-9
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local S
Matches 19
Query Match
Best Local Similarity 76.0
19; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 9, Application US/08049794 Patent No. 5587454
                                                                                                                                                                                                                                          TELEFAX: (415) 324-09
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-POS/MS-DOS SOFTWARE: Patentin Release #1.0, CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CORRESPONDENCE ADDRESS:
ADDRESSEE: Law Offices of Peter Dehlinger
STREET: 350 Cambridge Avenue, Suite 300
                                                                                                                                                                                                       SEQUENCE CHARACTERISTICS:
LENGTH: 25 amino acids
                                                                                                                                                                                                                                                                                                                                  ATTORNEY/AGENT INFORMATION:
NAME: Stratford, Carol A
REGISTRATION NUMBER: 34,
                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 0
FILING DATE: 30-DEC-1991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: JUSTICE,
APPLICANT: SINGH, TI
APPLICANT: GOHIL, K.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:

NAME/KEY: Modified-site

LOCATION: 12..13

OTHER INFORMATION: /note= "where xaa is no. 5559095leucine"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGINAL SOURCE:
INDIVIDUAL ISOLATE: SNX-194
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ANTI-SENSE: 1
                                                                                                                                     MOLECULE TYPE: protein HYPOTHETICAL: NO
                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: MILJANICH, GEORGE P
TITLE OF INVENTION: METHODS OF PRODUCING ANALGESIA
TITLE OF INVENTION: ENHANCING OPIATE ANALGESIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: U: FILING DATE: 19930415 CLASSIFICATION: 514
                                                                                                                                                                        TOPOLOGY:
                                                                                                                                                                                                                                                                                                                REGISTRATION NUMBER: 34,444
REFERENCE/DOCKET NUMBER: 5865-0009.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 76.0 (es 19; Conservative
                                                                                                                                                                                                                                                                               TELEPHONE:
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GOHIL, KISHOR C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
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                                                                                                                                                                        linear
                                                                                                                                                                                                                                                                                 (415) 324-0880
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Floppy disk
                                                                                                                                                                                                                                                              324-0960
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                                79.7%; Score 122; DB 1; Length 25; 76.0%; Pred. No. 7.7e-07;
                                                                                                                                                                                                                                                                                                                                                                                                        US 07/814,759
                                                                                                    SNX-190, FIGURE 2
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Pred. No. 7.7e-07;
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Mismatches

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1 CKGTGKPCSRIAYNCCTGSCRSGKC 25
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1 CKGAGAKCSRLMYDCCTGSCRSGKC 25

Search completed: May 20, 2003, 15:42:42 Job time: 10.8958 secs

Page 8